ZOQUE III: MORPHOLOGICAL CLASSES, AFFIX LIST, AND VERBS*

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4.0 This chapter lists three types of morphological items: stem classes, word classes, and affixes. Each morphological item is here indexed by the number or numbers (in parentheses) of the section or sections where it is treated in detail.

Each stem class is designated by a symbol, and its corresponding word class by a related symbol.

Each affix is assigned an arbitrary number ending in a digit from 1 to 9. Numbers ending in 0 designate classes of affixes within the decade (e.g. 210 designates any affix from 211 through 219). Numbers ending in 00 designate classes of affixes within the hundred (e.g. 200 designates any affix above 200 and under 300).

The following symbols show morphological relationships in the formulae. A plus sign (+) joins two morphemes within a word. A dash (—) joins a proclitic or enclitic to a word. The symbol (#) joins two words in a syntactic construction (except when one is a proclitic or enclitic). The symbol (±) substitutes for any of the symbols just given, when the item following it may be either present or absent. In generalized formulae, a superscript (x) after a number ending in 00 indicates that one or more than one of the affixes of that hundred-class may be present in the sequence type shown.

4.1. Each stem class is distinguished structurally from the other stem classes by the morphological sequences in which it may occur.

V = verb stem (a single morpheme or certain sequences of more than one morpheme; cf. **5.1–5.5**).

Au = auxiliary stem (a single morpheme nʌ, ma, ha?n (~ha), ?uy, wa?y; or a sequence of morphemes; cf. **6.1**).

N = noun stem (a single morpheme or certain sequences of more than one morpheme; cf. **7.1–7.4**).

At = attributive stem (a single morpheme or a sequence of morphemes; cf. **8.1–8.4**).

In = the (unique) intensive stem ne? (cf. **9.1**).

Pr = pronoun stem (a single morpheme ?ʌh, tʌh, mih, tiyʌ, ?iwʌ; or a sequence of morphemes; cf. **10.1**).

D = demonstrative stem (a single morpheme te?, yʌ?, ?ʌ?; cf. **11.1**).

Nm = numeral stem (a single morpheme or sequence of morphemes; cf. **12.1**).

Pp = participle stem (a sequence of certain morphemes; cf. **13.1**).

Pc = particle stem (a single morpheme; cf. **14.1**).

A raised number after a stem class symbol is used when it is desired to show the number of morphemes in the stem. Thus, V^1 is a verb stem consisting of one morpheme; V^2 is a verb stem consisting of two morphemes, etc.

4.2. Certain stems, or, in many cases, a morphological sequence of stem plus affixes, constitutes a word.

Ten word classes are set up: verb (Vb),

* For Zoque I and II, see IJAL 17.1–9, 105–123 (1951).

auxiliary (Aux), noun (Nn), attributive (Atr), intensive (Int), pronoun (Prn), demonstrative (Dm), numeral (Num), participle (Ppl), particle (Pcl).

In the equations of Table 2, the morphological sequences listed at the left are equated with the word classes at the right. For each word class, minimum sequences are first shown; these are followed by maximum potential sequences for each group except particles, which have only the minimum sequence.

The maximum sequences shown in the equations of Table 2 show the theoretically possible combinations of morphemes in each word class. In the linguistic forms observed, not all the theoretical possibilities actually occur. This is due in part to two types of limitation in the language system itself. First, the number of items occurring in any one morphological sequence is limited. For example, verbs having more than three or four suffixes after the stem are infrequent. Second, semantic factors render infrequent or even nonexistent the occurrence of certain combinations of morphemes in the same sequence. The bearing of these types of limitation on our techniques of structural analysis has been mentioned in the Introduction to this work (**0.1**).

Apart from the types of limitation just mentioned, the morphological sequences listed above for a given stem class are valid for essentially all members of that class. The high degree of regularity in both form and occurrence of these affixes (i.e. classes 100, 500–800) and the consequent paucity of arbitrarily defined subclasses in word formation results in a much simpler statement of word structure than is possible for numerous other American Indian languages. (The Zapotec languages, in geographical proximity to Zoque, show a multiplicity of subclasses and apparent irregularities, and afford a striking contrast to Zoque in this respect.)

4.3. Affixes are numbered according to their class affiliations.

Class 00. Prefixes that appear in stem formation are numbered 10–20, 50–60, 70, and 80.

Classes 10–20. Prefixes that appear in verb stems (V):
11 ko- ∼ koʔ- associative, etc. (**5.3**)
12 kʌ- ∼ kʌʔ- chance-associative, etc. (**5.3**)
13 nʌ- causative-associative (**5.3**)
14 ni- incompletive (?), etc. (**5.3**)
15 ʔaŋ- perceptional, etc. (**5.3**)
16 wʌ- meliorative (**5.3**)
21 yah- causative-permissive (**5.3**)

Classes 50–60. Prefixes that appear in noun stems (N) and attributive stems (At):
51 ʔaŋ- *mouth*, etc. (**7.2.1; 8.2**)
52 ko- ∼ koʔ *head*, etc. (**7.2.1; 8.2**)
53 neʔŋ- *foot* (**7.2.1**) (in noun stems only?)
61 ni- (**7.2.2; 8.2**)
62 hoh- (**7.2.2**) (in noun stems only)

Class 70. Prefix that appears in verb stems (V), noun stems (N), and attributive stems (At):
71 saŋ- intensive (**5.3; 7.2.1; 8.2**)

Class 80. Prefixes that appear in pronoun stems (Pr):
81 yah- negative (**10.1.2**)
82 ñempe- ∼ wempe- ∼ yempe- general (**10.1.2**)

Class 100. Prefixes that appear in word formation (as opposed to stem formation) are numbered 110–120 and 130.

Classes 110–120. Prefixes that appear in verbs (Vb):
111 nay- reciprocal (**5.6.4**)
121 hay- negative completive (**5.6.4**)

Class 130. Prefixes that appear in verbs (Vb), nouns (Nn), and attributives (Atr):
131 N- (see paragraphs below)
132 y- (see below)
133 Ny- (see below)

Prefixes of class 130 mark person in transitive verbs (Vb), intransitive verbs (Vb), possessed nouns (Nn), noun or attributive predications (Nn or Atr), and intensives (Int); they also occur with specialized meanings in a few noun stems (N). The meanings of the class 130 prefixes are correlated with their distribution. We give here the prefixes

TABLE 2

MORPHOLOGICAL SEQUENCES		WORD CLASSES
V + 560	= Vb	Verb
This minimum sequence, viz. a suffix of class 560 after the verb stem (V) (**5.6.1.**), may be elaborated with prefixes and/or other suffixes (**5.6.2.-5.6.4.**) and stated in its most extended form as:		
± 120 ± 130 ± 110 + V ± 510 ± 520 ± 530 ± 540 ± 550 + 560 ± 710 ± 720 ± 730 ± 740 ± 750	= Vb	
Au	= Aux	Auxiliary
The auxiliary stem (Au) may constitute a minimum sequence (**6.2.1.**) or be elaborated with suffixes (**6.2.2.**) and stated in its most extended potential form as:		
Au ± 710 ± 720 ± 730 ± 740 ± 750	= Aux	
N	= Nn	Noun
The noun stem (N) may constitute a minimum sequence (**7.5.1.**) or be elaborated with prefixes and/or suffixes (**7.5.2.-7.5.4.**) and stated in its most extended potential form as one of the following:		
N + 651 or 661	= Nn	
± 130 + N ± 610 or 620 ± 630 ± 732 ± 640 ± 712 ± 720 ± 740 ± 750	= Nn	
At	= Atr	Attributive
The attributive stem (At) may constitute a minimum sequence (**8.5.1.**) or be elaborated with prefixes and/or suffixes (**8.5.2.-8.5.4.**) and stated in its most extended form as one of the following:		
At + 651	= Atr	
± 130 + At ± 640 ± 712 ± 720 ± 740 ± 751	= Atr	
In	= Int	Intensive
The unique intensive stem ne? may constitute a minimum sequence (**9.2.1.**) or be elaborated with a prefix and/or a suffix (**9.2.2.-9.2.3.**) and stated in formula as:		
± 132 + In ± 640	= Int	
Pr	= Prn	Pronoun
The pronoun stem (Pr) may constitute a minimum sequence (**10.2.1.**) or be elaborated with suffixes (**10.2.2.-10.2.3.**) and stated in its most extended form as:		
Pr ± 610 or 620 ± 640 ± 720 ± 730 ± 740 ± 751	= Prn	
D	= Dm	Demonstrative
The demonstrative stem (D) may constitute a minimum sequence (**11.2.1.**) or be elaborated with a suffix (**11.2.2.-11.2.4.**) and stated in formula as:		
D ± 614 or 619 or 721 or 732 ± 331 ± 631 or 711 or 740	= Dm	
Nm	= Num	Numeral
Certain numeral stems (Nm) may constitute a minimum sequence (**12.2.1.**); others have as minimum sequences one of the following:		
Nm + 810 or 830 or 840	= Num	
Nm + 810 + 820 or 830	= Num	
(For other types of sequences with numeral stems, see **12.2.2.-12.2.3.**).		

TABLE 2 (*Continued*)

MORPHOLOGICAL SEQUENCES			WORD CLASSES
Pp	=	Ppl	Participle
The participle stem (Pp) may constitute a minimum sequence (**13.2.1.**) or be elaborated with suffixes (**13.2.2.-13.2.3.**) and stated in its most extended form as: Pp ± 610–620 ± 640 ± 721 ± 740 ± 731 ± 751	=	Ppl	
Pc	=	Pcl	Particle
The particle stem (Pc) constitutes a morphological sequence (**14.2.**); it is neither preceded nor followed by affixes.			

and their meanings with this distributional correlation.

Prefix 131 N-. In transitive verbs (with or without an auxiliary), prefix 131 marks 1st or 2nd person subject, unspecified object (**5.6.4**). In intransitive verbs with an auxiliary, and in noun and attributive predications with an auxiliary, prefix 131 marks 1st (not 2nd) person subject (**5.6.4; 7.5.4; 8.5.4**). In possessed nouns, prefix 131 marks 1st or 2nd person possessor (**7.5.4**). Prefix 131 occurs with a specialized meaning in three noun stems (**7.2.3**).

Prefix 132 y-. In transitive verbs (with or without an auxiliary), prefix 132 marks 3rd person subject and 3rd person object (**5.6.4**). In intransitive verbs with an auxiliary, and in noun and attributive predications with an auxiliary, prefix 132 marks 3rd person subject (**5.6.4; 7.5.4; 8.5.4**). In possessed nouns, prefix 132 marks 3rd person possessor (**7.5.4**). In the intensive, prefix 132 marks 3rd person (**9.2.2**). Prefix 132 occurs with a specialized meaning in one noun stem (**7.2.3**).

Prefix 133 Ny-. In transitive verbs (with or without an auxiliary), prefix 133 marks 3rd person subject, 2nd person object (**5.6.4**). In intransitive verbs and in noun and attributive predications (with or without an auxiliary), prefix 133 marks 2nd person subject (**5.6.4; 7.5.4; 8.5.4**). Prefix 133 occurs with a specialized meaning in one noun stem (**7.2.3**).

Class 200. Suffixes that appear in verb stems (V) are numbered 210–220, 230, 240, 250, and 260.

Classes 210–220. Suffixes that follow verb stems to form other verb stems (in formula: V + 210 or 220 = V):

211 -pʌʔ- completive, reversive, etc. (**5.4.1**)
212 -ʔoy- generalizing (**5.4.1**)
213 -X$^{i}/_{e}$- diminutive (?) (**5.4.1**)
214 -Xuʔ- (**5.4.1**)
215 -nay- ∼ -ñay- aimless or corporeal (**5.4.1**)
216 -wʌy- (**5.4.1**)
217 -meneʔ- iterative (**5.4.1**)
218 -kʌʔy- inceptive (**5.4.1**)
219 -hoʔy- interminative (**5.4.1**)
221 -ʔaŋheh- temporary cessative (**5.4.1**)

Class 230. Suffix that follows noun or attributive stems to form verb stems (in formula: N or At + 230 = V):

231 -ʔah- factative (**5.4.2**)

Class 240. Suffix that follows noun or attributive or verb stems to form verb stems (in formula: N or At or V + 240 = V):

241 -ʔʌy- (**5.4.3**)

Class 250. Connective suffix in verb stems:

259 -X$^{a}/_{ʌ}$- (**5.4.4**)

Class 260. Suffix that follows noun or verb stems plus suffix 251 to form verb stems; it also follows certain other forms to form verb stems:

261 -nʌm- impersonal (**5.4.4**)

Class 300. Suffixes that appear in noun stems (N) or attributive stems (At) are numbered 310, 320, and 330.

Class 310. Suffixes that follow verb stems to form noun or attributive stems (in formula: V + 310 = N or At):

311 -kuy action, instrument, etc. (**7.3.1**)
312 -kʌʔ ∼ -kʌ impersonal action, etc. (-kʌʔ in **7.3.1**; -kʌ in **10.1.2**)

313 -ʔaŋ action or result (**7.3.1; 8.3**)
314 -Xi ∼ -Xe result (**7.3.1; 8.3**)
315 -Xa ∼ -Xʌ result (**7.3.1**)
316 -Xihk(—) (**7.3.1**)

Class 320. Suffixes that follow noun or verb stems to form noun stems (in formula: N or V + 320 = N):
321 -tʌhk(—) habitat or instrument (**7.3.2**)
322 -tayu professional agent (**7.3.2**)

Class 330. Suffixes that follow noun stems to form other noun stems (in formula: N + 330 = N):
331 -mʌ place-name marker or locative (**7.3.3; 11.2.2** [cf. **7.5.2** and suffixes 622, 624, 626])
332 -way *inhabitant of* or *pertaining to* (**7.3.3**)

Class 400. Suffix that appears in participle stems (in formula: Vb or Nn or Atr or Dm or Num + 400 = Pp):
411 -pʌ ∼ -wʌ (**13.1**)

Class 500. Suffixes that appear in verbs (Vb) are numbered 510, 520, 530, 540, 550, and 560. (Suffixes of each decade-class occur after the verb stem or after a suffix of a preceding decade-class).

Class 510:
511 -hay- benefactive (**5.6.2**)

Class 520:
521 -Xˢ/ʌtʌh- mandatory or reciprocal, non-3rd person plural recipient (**5.6.2**)
522 -yatʌh- mandatory or reciprocal, 3rd person plural recipient (**5.6.2**)

Class 530:
531 -taM- 1st or 2nd person plural (**5.6.2**)
532 -yah- 3rd person plural (**5.6.2**)

Class 540:
541 -tʸoʔy- desiderative (**5.6.2**)
542 -tʌʔ- intentive (**5.6.2**)

Class 550:
551 -keʔt- repetitive (**5.6.2**)

Class 560 (certain members of this class also appear in formation of auxiliary stems [Au]):
561 -u completive, etc. (**5.6.1; 6.1.2; 6.1.3**)
562 -pa incompletive (**5.6.1; 6.1.2; 6.1.3**)
563 -Xˢ/ʌ imperative and negative (**5.6.1**)
564 -Xⁱ/ₑ (**5.6.1; 6.1.2**)
565 -ʔi- hortatory (**5.6.1**)

Class 600. Suffixes that appear in nouns (Nn) and certain other word classes are numbered 610–620, 630, 640, 650, and 660.

Classes 610–620. Suffixes that appear in nouns (Nn) and pronouns (Prn); certain of these also appear in demonstratives (Dm) or participles (Ppl):
611 -ʔis ∼ -ʔs ∼ -s genitive or subject of transitive verb (**7.5.2; 10.2.2; 13.2.2**)
612 -hiʔŋ comitative (**7.5.2; 10.2.2; 13.2.2**)
613 -piht(—) instrumental (**7.5.2; 10.2.2; 13.2.2**)
614 -kotoya benefactive (**7.5.2; 10.2.2; 13.2.2**)
615 -ʔaŋi locative (**7.5.2; 10.2.2**)
616 -ʔaŋʌ locative (**7.5.2; 13.2.2**)
617 -ʔohmo locative (**7.5.2; 10.2.2; 13.2.2**)
618 -ʔoyh locative (**7.5.2** [cf. suffix 627])
619 -i ∼ -y locative (?) (**7.5.2** [cf. suffixes 621, 623, 625]; **11.2.2**)
621 -kʌsi locative *on* (**7.5.2; 10.2.2; 13.2.2**)
622 -kʌsmʌ locative *above* (**7.5.2; 10.2.2; 13.2.2**)
623 -kʌʔy locative *under* (**7.5.2; 10.2.2**)
624 -kʌʔmʌ locative *under* (**7.5.2; 10.2.2; 13.2.2**)
625 -kuhki locative *in the middle of* (**7.5.2**)
626 -kukmʌ locative *in the middle of* (**7.5.2; 10.2.2; 13.2.2**)
627 -kuhkoyh locative *in the middle of* (**7.5.2**)
628 -kuhk(—) locative *in the middle of* (**7.5.2**)

Class 630. Suffix that appears in nouns (Nn) and demonstratives (Dm):
631 -k motion from, etc. (**7.5.2; 11.2.3**)

Class 640. Suffix that appears in nouns (Nn), attributives (Atr), intensive (Int), pronouns (Prn), demonstratives (Dm), and in certain constructions in numerals (Num) and participles (Ppl):
641 -taʔm plural (**7.5.2; 8.5.2; 9.2.3; 10.2.2; 11.2.4; 12.2.1; 13.2.3**)

Class 650. Suffix that appears in certain nouns (Nn) and attributives (Atr):
651 -ʔaŋge repetitive (**7.5.2; 8.5.2**)

Class 660. Suffix that appears only in certain nouns (Nn):
661 -y vocative (**7.5.2**)

Class 700. Suffixes that appear in verbs (Vb), auxiliaries (Aux), nouns (Nn), attributives (Atr), and certain others:
711 -mʌy locative subordinative (**5.6.3; 6.2.2; 11.2.3**)
712 -ʔk temporal subordinative (**5.6.3; 6.2.2; 7.5.3; 8.5.3; 10.2.3**)
721 -ʔa ~ -aʔM- ~ -aʔa perfective (**5.6.3; 6.2.2; 7.5.3; 8.5.3; 11.2.2; 13.2.3**)
731 -hsʌʔŋ potential (**5.6.3; 6.2.2; 10.2.3; 13.2.3**)
732 -šeh similative (**5.6.3; 6.2.2; 7.5.3; 10.2.3; 11.2.2**)
741 -tih limitational-indefinite (**5.6.3; 6.2.2; 7.5.3; 8.5.3; 10.2.3; 11.2.3; 13.2.3**)
742 -mah durative (**5.6.3; 6.2.2; 7.5.3; 8.5.3; 11.2.3; 13.2.3**)
751 -ha interrogative (**5.6.3; 6.2.2; 7.5.3; 8.5.3; 10.2.3; 13.2.3**)
752 -ʔun ~ -ʔn quotative (**5.6.3; 7.5.3**) (in verb and noun stems only?)

Class 800. Suffixes that appear in numerals (Num):
811 -a ~ -ku- (**12.2.1**)
812 -ʌ (**12.2.1**)
821 -ʔy ~ -ʔ (**12.2.1**)
822 -ʔŋ (**12.2.1**)
831 -mʌy *days hence* (**12.2.1**)
832 -yaʔa ~ -ʔyah *days ago* (**12.2.1**)
841 -iʔŋ (**12.2.1**)
851 -i (**12.3**)

4.4. Relative orders of affixes which precede or follow stems to form words are shown in Tables 3 and 4 below. For each word class involved, prefixes of order (1) immediately precede the stem; prefixes of order (2) immediately precede the stem or a prefix or order (1). Suffixes of order (1) immediately follow the stem; suffixes of order (2) immediately follow the stem or a suffix of order (1). Affixes of higher orders follow the same principle of position, but not all intervening orders must appear in any given sequence.

Tables 3 and 4 thus show only potential combinations, as discussed in **4.2.** These tables are in fact largely, though not in every detail, a different form of the statements made in equational form in Table 2 above.

Actual (as opposed to potential) distribution falls within the limits of these tables except where the latter are defective due to limitations of observation. Actual distribution is shown in the subsequent chapters.

5.0. Morphological sequences which characterize verb stems are summarized in **4.2** and shown in detail in **5.6.** Analysis of verb stems is given in **5.1–5.5.**[24]

5.1. Verb stems (designated V) may consist of one morpheme (V^1), two morphemes (V^2), or more (V^3, V^4, etc.). Likewise, noun stems (designated N) consist of one or more morphemes (N^1, N^2, etc.), and attributive stems (designated At) consist of one or more morphemes (At^1, At^2, etc.). Verb stems are treated in this chapter; other stems are shown in subsequent chapters.

5.1.1. Verb stems consisting of one morpheme (V^1) may be monosyllabic or disyllabic.

[24] In addition to the sequences shown in **5.6.**, most verb stems may precede certain suffixes of class 310 to form noun or attributive stems (see **7.3.** and **8.3.**). There are a few stems that do not occur in the sequences shown in **5.6.** but which do precede certain suffixes of class 310. These also are counted as verb stems (but dependent); examples are: ʔihs- (underlying form of ʔiskuy *life* with suffix 311 [ʔihs- appears in the adjoining Tecpatán dialect as a verb stem *to see*]); ʔaŋgʌtʌhk- (underlying form of ʔangʌtʌki *very much* with suffix 314). Besides these, there are a few dependent stems that occur neither in sequences which directly form verbs nor preceding 310, but which do pattern as verb stems in some other feature of constituency or distribution or both. These too are counted as verb stems (dependent); examples are: -ʔaŋwaʔk- (= 15 + verb stem; follows 12 in kʌʔaŋwaʔk- *to ask a question*); -sʌʔŋah- (= noun stem + 231; follows 11 in kosʌʔŋah- *to celebrate*); -nicahk- (= 14 + verb stem; follows a verb stem in camnicahk- *to leave word*).

Monosyllabic V^1 stems have the form CVC, CVCC, or CVCCC. They may end in a consonant ʔ, h, y, m, n, ŋ: kaʔ- *to die*, tah- *to dig*, poy- *to run*, cʌm- *to bear*, ken- *to look* or *see*, maŋ- *to go*. They may also end in a cluster of ʔ plus a consonant p, t, k, c, s, m, n, ŋ, y: tʌʔp- *to set*, paʔt- *to find*, wiʔk-CVCCVCC. They have the same vowel in both their syllables. They may end in a consonant ʔ, m, n, ñ, ŋ, y: hʌkʌʔ- *to remove*, hitiʔ- *to pull*, koyoʔ- *to moult*, mayaʔ- *to worry*, sowoʔ- *to roar*, yʌʔkʌʔ- *to shake*; cuʔkum- *to go out*, ponon- *to be soft*, piñiñ- (dependent V^1 stem underlying piñiñoy- *to eat*, naʔc- *to fear*, nuʔs- *to cover*, kiʔm- *to go up*, tuʔn- *to look at*, toʔŋ- *to drink*, cʌʔy- *to stay*. They may also end in a cluster of h plus consonant p, t, k, c, s: niph- *to plant*, wiht- *to walk*, cʌhk- *to do*, cihc- *to tear*, sohs- *to cook*. They may also end in a cluster ks or ʔks: poks- *to sit*, nuʔks- *to borrow*.

Dissyllabic V^1 stems have the form CVCVC, CVCCVC, CVCVCC, or CVCCVCC. They have the same vowel in both their syllables. They may end in a consonant ʔ, m, n, ñ, ŋ, y: hʌkʌʔ- *to remove*, hitiʔ- *to pull*, koyoʔ- *to moult*, mayaʔ- *to worry*, sowoʔ- *to roar*, yʌʔkʌʔ- *to shake*; cuʔkum- *to go out*, ponon- *to be soft*, piñiñ- (dependent V^1 stem underlying piñiñoy- *to tiptoe*), ʔotoŋ- *to speak*, tokoy- *to lose*. They may also end in a cluster of ʔ plus y: nʌktʌʔy- *to understand*. They may also end in a cluster of h plus consonant t, k, s: sitiht- *to fly*, kʌtʌhk- *to pass*, yosohs- *to be sultry*.

Dissyllabic V^1 stems are less numerous than monosyllabic V^1 stems.

TABLE 3

Orders of Word-Forming Affixes in Verbs and Auxiliaries

	PREFIXES			STEM	SUFFIXES						
	(3)	(2)	(1)		(1)	(2)	(3)	(4)	(5)	(6)	(7)
VERBS	121 hay-	131 N- 132 y- 133 Ny-	111 nay-	V^1 V^2 V^3 V^4 V^5	511 -hay-	521 -$X^a/_A$tʌh- 522 -yatʌh-	531 -taM- 532 -yah-	541 -$t^yoʔy$- 542 -tʌʔ-	551 -keʔt-	561 -u 562 -pa 563 -$X^a/_A$ 564 -$X^i/_o$ 565 -ʔi-	711 -mʌy 712 -ʔk

	(SUFFIXES, continued)			
	(8)	(9)	(10)	(11)
VERBS	721 -ʔa ~-aʔM- ~-aʔa	731 -hsʌʔŋ 732 -šeh	741 -tih 742 -mah	751 -ha 752 -ʔun ~ -ʔn (order?)

AUXILIARIES				Au^1 Au^2	712 -ʔk 742 -mah 751 -ha (final) 711 -mʌy (final) 731 -hsʌʔŋ (final) 732 -šeh (final)	721 -ʔa ~-aʔM- ~-aʔa 741 -tih					

TABLE 4

Orders of Word-Forming Affixes in Nouns and Related Word Classes

	PREFIXES	STEM	SUFFIXES (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NOUNS	131 N- 132 y- 133 Ny-	N¹ N² N³ N⁴	611 ʔis ∼ -ʔs 612 -hiʔŋ 613 -piht(-) 614 -kotoya 615 -ʔaŋi 616 -ʔaŋʌ 617 -ʔohmo 618 -ʔoyh 619 -i 621 -kʌsi 622 -kʌsmʌ 623 -kʌʔy 624 -kʌʔmʌ 625 -kuhki 626 -kukmʌ 627 -kuhkoyh 628 -kuhk(-) 651 -ʔange (final) 661 -y (final)	631 -k	732 -šeh	641 -taʔm	712 -ʔk	721 -ʔa ∼ -aʔM- ∼ -aʔa	741 -tih 742 -mah	751 -ha 752 -ʔun ∼ -ʔn (order?)
ATTRIBUTIVES	131 N- 132 y- 133 Ny-	At¹ At² At³	641 -taʔm 712 -ʔk 742 -mah (final) 651 -ʔaŋge (final)	721 -ʔa ∼ -aʔM- ∼ -aʔa 741 -tih (final)	751 -ha					
PRONOUNS		Pr¹ Pr²	611 -s ∼ -ʔs 612 -hiʔŋ 613 -piht(-) 614 -kotoya 615 -ʔaŋi 617 -ʔohmo 621 -kʌsi 622 -kʌsmʌ 623 -kʌʔy 624 -kʌʔmʌ 626 -kukmʌ 731 -hsʌʔŋ (final) 741 -tih (final) 751 -ha (final)	641 -taʔm 721 -ʔa ∼ -aʔM- ∼ -aʔa						
INTENSIVES	132 y-	In	641 -taʔm							

TABLE 4 (*Continued*)

	PREFIXES	STEM	SUFFIXES (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DEMONSTRATIVES		D	614 -kotoya 619 -y 721 -ʔa ∼ -aʔM- ∼ -aʔa 732 -šeh	331 -mʌ	631 -k 711 -mʌy 741 -tih 742 -mah					
NUMERALS		Nm¹ Nm²	811 -a ∼ -ku- 812 -ʌ 841 -iʔŋ (final) 641 -taʔm (final)	821 -ʔy ∼ -ʔ 822 -ʔŋ 831 -mʌy 832 -yaʔa ∼-ʔyah						
PARTICIPLES		Pp	611 -ʔs 612 -hiʔŋ 613 -piht(-) 614 -kotoya 616 -ʔaŋʌ 617 -ʔohmo 621 -kʌsi 622 -kʌsmʌ 624 -kʌʔmʌ 626 -kukmʌ	641 -taʔm	721 -ʔa ∼ -aʔM- ∼-aʔa	741 -tih 742 -mah	731 -hsʌʔŋ	751 -ha (order?)		

5.1.2. Verb stems consisting of two morphemes (V²) are of various types.

Stems in which 10 or 20 + V¹ = V²: nʌmaŋ- *to carry* (nʌ- = 13; maŋ- *to go* = V¹); koʔehc- *to dance socially* (ko- = 11; ʔehc- *to dance* = V¹); kopaʔt- *to sustain* (ko- = 11; paʔt- *to find* = V¹); kocam- *to make public* (ko- = 11; cam- *to speak* = V¹); kopuŋ- *to publish* (ko- = 11; puŋ- *to scatter* = V¹); kʌpʌhk- *to wedge* (kʌ- = 12; pʌhk- *to take* = V¹); ʔaŋham- *to feel* (ʔaŋ- = 15; ham- *to remember* = V¹); wʌcʌhk- *to fix* (wʌ- = 16; cʌhk- *to make* = V¹); yahkaʔ- *to kill* (yah- = 21; kaʔ- *to die* = V¹).

Stems in which V¹ + V¹ = V²: kengiʔm- *to look upward* (ken- *to look* = V¹; kiʔm- *to go up* = V¹); cʌknaʔc- *to frighten* (cʌhk- *to make* = V¹; naʔc- *to fear* = V¹).

Stems in which V¹ + 200 = V²: kipsoy- *to think much* (kips- *to think* = V¹; -ʔoy- = 212); wituʔ- *to return* (wiht- *to walk* = V¹; -uʔ- = 214); poye- *to run* (poy- *to flee* = V¹; -e- = 213).

Stems in which N¹ + 200 = V²: pʌʔnah- *to be born* (pʌn *man* = N¹; -ʔah- = 231); pʌʔnʌy- *to feed* (pʌn *man* = N¹; -ʔʌy- = 241).

Stems in which N¹ + V¹ = V²: kayupoks- *to ride horseback* (kayu *horse* = N¹; poks- *to sit* = V¹); nʌʔpʌhk- *to get water* (nʌʔ *water* = N¹; pʌhk- *to grasp* = V¹).

Stems in which At¹ + V¹ = V²: howikips-

to think foolishly (howi *foolish* = At¹; kips- *to think* = V¹).

Stems in which V¹ reduplicated = V²: ne?mne?m- *to shine* (ne?m- *to shine* = V¹).

Stems in which a Spanish loan verb + V¹ = V² (the Spanish verb is counted as a single Zoque morpheme regardless of its structure in Spanish morphology; the V¹ stem is always cʌhk- *to do* or *make*): segicʌhk- *to follow*; ?estudiacʌhk- *to study* (see **5.5.6**).

5.1.3. Verb stems consisting of three morphemes are of various types.

Stems in which 10 or 20 + V² = V³: nʌko?ehc- *to dance with* (nʌ- = 13; ko?ehc- *to dance socially* = 11 + V¹ = V²); wʌ?aŋham- *to believe* (wʌ- = 16; ?aŋham- *to feel* = 15 + V¹ = V²); kʌ?aŋwa?k- *to ask a question* (kʌ- = 12; -?aŋwa?k- = 15 + V¹ = V² [but dependent; wa?k- *to ask* = V¹]); yahnʌmaŋ- *to cause to carry* (yah- = 21; nʌmaŋ- *to carry* = 13 + V¹ = V²).

Stems in which V¹ + V² = V³: camgopuŋ- *to publish* (cam- *to speak* = V¹; kopuŋ- *to publish* = 11 + V¹ = V²); kenwitu?- *to look around* (ken- *to look* = V¹; witu?- *to return* = V¹ + 214 = V²); kenwʌcʌhk- *to look again* (ken- *to look* = V¹; wʌcʌhk- *to fix* = 16 + V¹ = V²).

Stems in which V² + V¹ = V³: poyecʌhk- *to do rapidly* (poye- *to run* = V¹ + 213 = V²; cʌhk- *to do* = V¹).

Stems in which V¹ + V¹ + V¹ = V³: kʌ?stočʌhk- *to bite to pieces* (kʌ?s- *to bite* = V¹; toy- *to hurt* = V¹; cʌhk- *to do* = V¹).

Stems in which V¹ + 251 + V¹ = V³: mawʌcohk- *to grow* (maŋ- *to go* = V¹; -ʌ- = 251; cohk- *to heal* = V¹).

Stems in which V¹ + 251 + 261 = V³: piyʌnʌm- *to be hot weather* (pih- *to be hot* = V¹; -ʌ- = 251; -nʌm- = 261).

Stems in which V² + 200 = V³: koca?moy- *to spread news* (kocam- *to announce* = 11 + V¹ = V²; -?oy- = 212); cʌkna?coy- *to frighten greatly* (cʌkna?c- *to frighten* = V¹ + V¹ = V²; -?oy- = 212); kopa?tʌy- *to sustain* (kopa?t- *to sustain* = 11 + V¹ = V²; -?ʌy- = 241).

Stems in which V¹ reduplicated + 215 = V³: camcamnay- *to converse* (cam- *to speak* = V¹; -nay- = 215).

Stems in which N² + 200 = V³: cʌmi?ʌy- *to load* (cʌmi *burden* = V¹ + 314 = N²; -?ʌy- = 241); to?ya?ŋʌy- *to pity* (to?yaŋ- = V¹ + 313 = N² [but dependent]; -?ʌy- = 241).

Stems in which N² + V¹ = V³: ?ʌwimin- *to get sleepy* (?ʌwi *sleepiness* = V¹ + 314 = N²; min- *to come* = V¹).

Stems in which At² + V¹ = V³: ka?epa?t- *to get sick* (ka?e *sick* = V¹ + 314 = At²; pa?t- *to find* = V¹).

5.1.4. Verb stems consisting of four morphemes (V⁴) are of various types.

Stems in which 10 or 20 + V³ = V⁴: ?aŋdo?ya?ŋʌy- *to betwitch* (?aŋ- = 15; to?ya?ŋʌy- *to pity* = N² [dependent] + 241 = V³).

Stems in which V³ + V¹ = V⁴: kʌ?aŋwa?kme?c- *to make inquiry* (kʌ?aŋwa?k- *to ask a question* = 12 + V² = V³; me?c- *to seek* = V¹).

Stems in which V¹ + V³ = V⁴: kengopa?tʌy- *to recognize* (ken- *to see* = V¹; kopa?tʌy- *to sustain* = V² + 241 = V³).

Stems in which V³ + 200 = V⁴: kʌ?stočʌhkʌy- *to bite to pieces* (kʌ?stočʌhk- *to bite to pieces* = V¹ + V¹ + V¹ = V³; -?ʌy- = 241).

Stems in which V¹ + reduplicated V¹ + 216 = V⁴: naksputputwʌy- *to take out by hitting* (naks- *to hit* = V¹; puht- *to go out* = V¹; -wʌy- = 216).

5.1.5. One verb stem consisting of five morphemes (V⁵) is shown here, in which V² reduplicated + 215 = V⁵: pahčʌkpahčʌknay- *to take a walk aimlessly* (pahčʌhk- *to take a walk* = *payh- dependent stem + V¹ = V²; -nay- = 215).

5.2. Certain morphological sequences constituting verbs (Vb) may occur in syntactic distribution with a subject noun, pronoun, or participle which has suffix 611; an object noun, pronoun, or participle not having suffix 611 may also appear in the same syntactic sequence. We designate these verbs as

transitive. Morphologically, transitive verbs differ from intransitive verbs in the distribution of prefixes of class 130 (see **5.6.4**).

Certain other verbs (Vb) may occur in syntactic distribution with a subject noun, pronoun, or participle which does not have suffix 611; no object appears in the sequence. We designate these verbs as intransitive. Morphologically, intransitive verbs differ from transitive in the distribution of prefixes of class 130 (see **5.6.4**).

Certain verb stems appear only in transitive verbs unless there appears an affix (viz. prefix 111) which makes the sequence intransitive. Verbs formed from stems having prefix 13 or 21 or suffix 216 as one immediate constituent are transitive (for examples see under these affixes, **5.3–5.4**). So also, there are verb stems whose semantic value limits them to transitive use except with prefix 111. Examples of verbs thus used transitively are: cʌhk- *to make* (V¹); paʔt- *to find* (V¹); kuŋ- *to lift* (V¹); tʌŋ- *to throw* (V¹); tʌŋbʌʔ- *to throw away* (V²); wʌcʌhk- *to fix* (V²); cʌknaʔc- *to frighten* (V²); cʌkʌpʌʔ- *to turn loose* (V³); kʌʔstočʌhk- *to bite to pieces* (V³); toʔyaʔŋʌy- *to pity* (V³); ʔaŋdoʔ-yaʔŋʌy- *to bewitch* (V⁴); kengopaʔtʌy- *to recognize* (V⁴).

Certain verb stems appear only in intransitive verbs unless there appears an affix (viz. suffix 511 or suffix 520 [without prefix 111]) which makes the sequence transitive. Verbs formed from stems having suffix 212, 213, 214, 215, 231, or 261 as one immediate constituent are intransitive (for examples see under these suffixes, **5.4**). So also, verbs formed from compound verb stems having a noun stem as one immediate constituent are intransitive (for examples see **5.5.5**). So also, there are verb stems whose semantic value limits them to intransitive use. Examples of verbs thus used intransitively are: sihk- *to laugh* (V¹); min- *to come* (V¹); maŋ- *to go* (V¹); hʌy- *to weep* (V¹); poču?kum- *to go out running* (V²); poyemin- *to come running* (V³); pahčʌkpʌʔ- *to walk all around* (V³).

Certain verb stems appear in either transitive or intransitive verbs. Examples are: ken- *to see* or *look* (V¹); yah- *to end* (V¹); kaʔ- *to die* or *kill* (V¹ [usually intransitive]); kips- *to think* (V¹); sohs- *to cook* (V¹); kuʔt- *to eat* (V¹); ʔaŋmay- *to learn* (V²); ʔestudiacʌhk- *to study* (V²); wʌʔaŋham- *to believe* (V³); kʌʔaŋwaʔk- *to ask a question* (V³).

5.3. Prefixes of classes 10–20 and 70 precede certain verb stems to form other verb stems. In formula: 10 or 20 or 70 + V = V. The specific prefixes involved are 11, 12, 13, 14, 15, 16, 21, 71.

Prefix 11 is ko- ~ koʔ- (associative); ko- before certain stems, koʔ- before certain other stems. It may precede certain V¹ stems. This may be stated in the formula: 11 + V¹ = V². The following examples show ko- ~ koʔ- = 11 followed by V¹; the specific V¹ is given in parentheses after each example: koham- *to observe* (ham- *to remember*); kohʌy- *to mourn* (hʌy- *to weep*); kokaʔc- *to grind cane for someone* (kaʔc- *to grind cane*); koken- *to care for* (ken- *to see*); kokihp- *to defend* (kihp- *to fight*); kokips- *to worry* (?) (kips- *to think*); kokʌʔs- *to gnaw* (kʌʔs- *to bite*); komuʔk- *to suck* (muʔk- *to suck*); konuʔs- *to deny* (nuʔs- *to cover*); kopaʔ- *to strain* or *sift* (paʔ- *to strain*); kopiŋ- *to pick out* (piŋ- *to pick up*); koʔehc- *to dance socially* (ʔehc- *to dance*); koyohs- *to work away from home* (yohs- *to work*); koʔʌŋ- *to sleep in another's house* (ʔʌŋ- *to sleep*); kowiht- *to go visiting* (wiht- *to walk*); koʔyah- *to terminate* (yah- *to end*).

Prefix 11 may also precede certain V² stems. In formula: 11 + V² = V³. Examples show ko- ~ koʔ- = 11 followed by V²; the specific V² is shown in parentheses after each example: kopahčʌhk- *to go visiting* (pahčʌhk- *to take a walk*); koʔwitu?- *to turn round and round* (witu?- *to return*); kosʌʔŋah- *to celebrate* (-sʌʔŋah- = V² [but dependent; sʌŋ *fiesta* = N¹; -ʔah- = 231]).

Certain verb stems (V) are preceded by 11 only when the sequence 11 + V is preceded by another morpheme. In the two ex-

amples which follow, the morphemes prior to 11 are V^1 and 15 respectively: pengoka?m- *to press tight* (pen- *to squeeze* = V^1; ko- = 11; ka?m- *to tighten* = V^1); ?aŋgomuks- *to cover with something inverted* (?aŋ- = 15; ko- = 11; muks- *to invert* = V^1).

Prefix 11, in certain sequences, marks action performed for or on the property of another person (but intransitively; the other person is not the object of the verb; contrast prefix 13). We term this associative. In other sequences, prefix 11 marks some specialized meaning and the verb may be either transitive or intransitive.

Prefix 12 is kʌ- ~ kʌ?- (chance-associative); kʌ- before certain stems, kʌ?- before certain other stems. It may precede certain V^1 stems. In formula: 12 + V^1 = V^2. Examples show kʌ- ~ kʌ?- = 12 followed by V^1; as above, the specific V^1 is given in parentheses: kʌho?n- *to loosen* (ho?n- *to be loose*); kʌkum- *to hide behind someone* (kum- *to hide*); kʌkʌtʌhk- *to pass around* (kʌtʌhk- *to pass*); kʌcehc- *to clear land* (cehc- *to cut brush*); kʌ?weh- *to send* (weh- *to call*); kʌmin- *to come with someone* (min- *to come*); kʌki?m- *to go up with someone* (ki?m- *to go up*); kʌton- *to prop* (-ton- is set up as V^1 but dependent; it occurs only following 12).

Prefix 12 may also precede certain V^2 stems. In formula: 12 + V^2 = V^3. Examples show kʌ- = 12 followed by V^2; the specific V^3 is given in parentheses: kʌwitu?- *to go around* (witu?- *to return*); kʌ?aŋmay- *to be an apprentice* (?aŋmay- *to learn*); kʌ?aŋwa?k- *to ask a question* (-?aŋwa?k- = V^2 [but dependent; ?aŋ- = 15; wa?k- *to ask* = V^1]); kʌko?mʌy- *to set a post* (-ko?mʌy- = V^2 [but dependent; kom *post* = N^1; -?ʌy- = 241]).

Certain verb stems (V) are preceded by 12 only when the sequence 12 + V is followed by another morpheme. In the examples that follow, the morpheme which follows V is 241: kʌmato?ŋʌy- *to listen* (kʌ- = 12; matoŋ- *to hear* = V^2; -?ʌy- = 241); kʌmehkʌy- *to court* (kʌ- = 12; mehk- *to court* = V^1; -?ʌy- = 241).

Prefix 12, in certain sequences, marks action performed along with another person or thing which initiates the action; the subject of the verb takes a subordinate or chance part in the action. We term this chance-associative (in contrast with causative-associative as in prefix 13). This meaning is close to that of prefix 11, but is apparently to be distinguished from it. In other sequences, prefix 12 marks some specialized meaning.

Prefix 13 nʌ- (causative-associative) may precede certain V^1 stems. In formula: 13 + V^1 = V^2. Examples show nʌ- = 13 followed by V^1; the specific V^1 is given in parentheses: nʌmin- *to bring* (min- *to come*); nʌmaŋ- *to take away* (maŋ- *to go*); nʌki?m- *to carry up* (ki?m- *to go up*); nʌcu?kum- *to take out* (cu?-kum- *to go out*); nʌpuht- *to take out* (puht- *to go out*); nʌmaya?- *to wonder at* (maya?- *to wonder*); nʌ?iht- *to have* (?iht- *to exist*); nʌpoks- *to sit with* (poks- *to sit*); nʌ?ʌŋ- *to sleep with* (?ʌŋ- *to sleep*); nʌnihp- *to help plant* (nihp- *to plant*); nʌwiht- *to walk with* or *carry around* (wiht- *to walk*). Prefix 13 may also precede certain V^2 stems. In formula: 13 + V^2 = V^3. Examples: nʌko?ehc- *to dance with* (ko?ehc- *to dance socially*); nʌtu?ŋah- *to propel* (tu?ŋah- *to travel*). Prefix 13 marks action performed along with another person or thing which is the object of the verb. The subject initiates the action and the object undergoes the action or takes a subordinate part in it. We term this causative-associative (contrast chance-associative of prefix 12, and causative-permissive of prefix 21). Verb stems formed with prefix 13 appear in transitive verbs.

Prefix 14 ni- (incompletive [?]) may precede certain V^1 stems. In formula: 14 + V^1 = V^2. Examples: niham- *to understand* (ham- *to remember*); nitu?y- *to get tired* (tu?y- *to eclipse* or *get tired out*); nicʌhk- *to begin* (*something*) (cʌhk- *to do*); nimehk- *to attempt* (?) (mehk- *to court*). Prefix 14 precedes the V^1 stem naks- *to beat* only when the sequence 14 + V^1 is preceded by the N^1 stem ham *lime*; the form is hamninaks- *to whitewash*. Likewise, prefix 14 precedes the V^1 stem cahk- *to leave* only when the sequence is

preceded by the V^1 stem cam- *to speak*; the form is camnicahk- *to leave word*. Prefix 14 may also precede certain V^2 stems. In formula: $14 + V^2 = V^3$. Examples: nipakahkʌy- *to have a chill* (pakahkʌy- *to feel cold*); ni?-aŋba?t- *to lay blame* (-?aŋba?t- = V^2 [but dependent; ?aŋ- = 15; pa?t- *to find* = V^1]); nima?ŋʌy- *to trample* (ma?ŋʌy- *to go another way*). Prefix 14 may also precede certain V^3 stems. In formula: $14 + V^3 = V^4$. Example: nicʌmi?ʌy- *to load* (*an animal*) (cʌmi?ʌy- *to load*). Prefix 14 marks a wide range of specialized meanings; some of these apparently indicate action incompletely performed.

Prefix 15 ?aŋ- (perceptional) may precede certain V^1 stems. In formula: $15 + V^1 = V^2$. Examples: ?aŋham- *to feel* (ham- *to remember*); ?aŋsun- *to crave* (sun- *to love, want*); ?aŋcoŋ- *to answer* (coŋ- *to meet*); ?aŋhʌy- *to sound* (hʌy- *to weep*); ?aŋmay- *to learn* (may- *to count*); ?aŋgi?m- *to command* (ki?m- *to go up*); ?aŋbʌhk- *to invite* (pʌhk- *to take*); ?aŋgʌtʌhk- (dependent V^2; underlying form of attributive ?aŋgʌtʌki *very much*; ?aŋ- = 15; kʌtʌhk- *to pass* = V^1). Prefix 15 may also precede certain V^2 stems. In formula: $15 + V^2 = V^3$. Examples: ?aŋgomuks- *to cover with something inverted* (-komuks- = V^2 [but dependent; ko- = 11; muks- *to invert* = V^1]); ?aŋgopahc- *to smash* (-kopahc- = V^2 [but dependent; ko- = 11; pahc- *to smash* = V^1]). Prefix 15 may also precede certain V^3 stems. In formula: $15 + V^3 = V^4$. Example: ?aŋdo?ya?ŋʌy- *to bewitch* (to?ya?-ŋʌy- *to pity*). Prefix 15 precedes certain verb stems (V) only when the sequence 15 + V is preceded by another morpheme. Example: kʌ?aŋwa?k- *to ask a question* (kʌ- = 11, ?aŋ- = 15; wa?k- *to ask* = V^1). Prefix 15 marks a wide range of specialized meanings. In some sequences it may be termed perceptional; i.e. it marks action as perceptible to the ear or mind.

Prefix 16 wʌ- (meliorative) may precede the V^1 stem cʌhk- *to make* to form the V^2 stem wʌcʌhk- *to fix*. It may precede the V^2 stem ?aŋham- *to feel* to form the V^3 stem wʌ?aŋham- *to believe*. Prefix 16 may be said to mark meliorative action; i.e. the forms cited above are then literally *to make good* and *to feel good*.[25]

Prefix 21 yah- (causative-permissive) may precede certain V^1 stems. In formula: $21 + V^1 = V^2$. Examples: yahka?- *to kill* (ka?- *to die*); yahken- *to show* (ken- *to see*); yahmaŋ- *to cause to go* (maŋ- *to go*); yahtuhk- *to complete* (tuhk- *to be completed*); yahwa?k- *to give* (in response to a request) (wa?k- *to ask*); ya?om- *to like* (food) (?om- *to be delicious*); ya?iht- *to let exist* (?iht- *to exist*). Prefix 21 may also precede certain V^2 stems. In formula: $21 + V^2 = V^3$. Examples: yahtenay- *to make stand* (tenay- *to stand*); yahkocohk- *to save* (kocohk- *to be saved*); yahwiyu?ŋah- *to make straight* (wiyu?ŋah- *to become straight*); ya?aŋhʌy- *to cause to sound* (?aŋhʌy- *to sound*); yahkowapa?t- *to condemn* (kowapa?t- *to be guilty*); yahkotokoy- *to pardon* (kotokoy- *to be forgiven*). Prefix 21 marks causative or permissive. Verb stems formed with prefix 21 appear in transitive verbs.

Prefix 71 saŋ- (intensive) may precede certain V^1 stems. In formula: $71 + V^1 = V^2$. Example: saŋci?- *to give freely* (ci?- *to give*). Prefix 71 marks an intensified meaning of the V^1 stem that follows it.

5.4. Suffixes appearing in verb stems are 211, 212, 213, 214, 215, 216, 217, 218, 219, 221; also 231, 241, 251, 261.

5.4.1. Suffixes of classes 210–220 follow certain verb stems to form other verb stems. In formula: V + 210 or 220 = V. The specific suffixes involved are 211, 212, 213, 214, 215, 216, 217, 218, 219, 221.

Suffix 211 -pʌ?- (completive, reversive) may follow certain V^1 stems. This may be stated in the formula: $V^1 + 211 = V^2$. The following examples show -pʌ?- = 211 preceded by V^1; the specific V^1 is given in parentheses after each example: pʌkpʌ?- *to take all* (pʌhk- *to take*); cʌkpʌ?- *to do completely*

[25] The morpheme wʌ appears in certain other dialects of Zoque as a stem with meaning *good*.

(cʌhk- *to do*); kenbʌ?- *to see all* (ken- *to see*); hupyʌ?- *to buy all* (huy- *to buy*); tʌŋbʌ?- *to throw away* or *to fell* (tʌŋ- *to throw*); hambʌ?- *to forget* (ham- *to remember*); kʌ?ŋbʌ?- *to fade* or *discolor* (kʌ?ŋ- *to dye* or *paint*). Suffix 211 may also follow certain V^2 stems. In formula: $V^2 + 211 = V^2$. Example: pahčʌkpʌ?- *to walk all around* (pahčʌhk- *to take a walk*). Suffix 211 follows the sequence $V^1 + 251$ in the V^3 stem cʌkʌpʌ?- *to turn loose* (cʌhk- *to do* = V^1; -ʌ- = 251; -pʌ?- = 211). Suffix 211, in some sequences, marks action completely carried out or done to all possible objects. We term this completive. This meaning is that shown in the productive pattern of suffix 211, i.e. when it appears in new formations. In certain other sequences, suffix 211 marks reversive meaning, i.e. a meaning opposite to that of the stem which it follows (note hambʌ?- and kʌ?ŋbʌ?- above). In certain other sequences a still different specialized meaning is marked.

Suffix 212 -?oy- (generalizing) may follow certain V^1 stems. In formula: $V^1 + 212 = V^2$. The following examples show -?oy- = 212 preceded by V^1; the specific V^1 is given in parentheses: kipsoy- *to think much* (kips- *to think*); muhsoy- *to be wise* (muhs- *to know*); ce?oy- *to wash clothes* (ce?- *to wash*); ke?noy- *to sightsee* (ken- *to see*); cʌhkoy- *to do things* (cʌhk- *to do*); pi?koy- *to do housework* (pi?k- *to touch*). Suffix 212 may also follow certain V^2 stems. In formula: $V^2 + 212 = V^3$. Examples: cʌkna?coy- *to frighten greatly* (cʌkna?c- *to frighten*); koca?moy- *to spread news* (kocam- *to make public*); konuksoy- *to pray* (konuks- *to greet*). Suffix 212 usually marks a generalized action corresponding to the specific action named in the stem that it follows; in some sequences the action is augmented in either time or intensity. Most verb stems formed with suffix 212 appear in intransitive verbs; thus suffix 212 sometimes acts as a simple intransitivizer of stems that otherwise appear in transitive verbs.

Suffix 213 -$X^{i}/_{e}$- (diminutive [?]) may occur after certain V^1 stems. In formula: $V^1 + 213 = V^2$. The only attested examples are: piti- *to roll over* (piht- *to roll up*); poye- *to run* (poy- *to flee* or *run*). In the second example, suffix 213 marks diminished or less intense action. The verb stems formed with suffix 213 both appear in intransitive verbs.

Suffix 214 -Xu?- may occur after certain V^1 stems. In formula: $V^1 + 214 = V^2$. The only attested examples are: witu?- *to return* (wiht- *to walk*); muku?- *to stoop* (muhk- *to measure* [but with meaning *to stoop* in muhkehk- *to stoop* and muknay- *to stoop*]). Verb stems formed with suffix 214 appear in intransitive verbs.

Suffix 215 -nay- ~ -ñay- (aimless; corporeal); -nay- is the usual alternant, and -ñay- occurs after certain stems (especially certain stems ending in an alveopalatal consonant). Suffix 215 may occur after certain reduplicated V^1 stems. This may be stated in the formula: Reduplicated $V^1 + 215 = V^3$. Examples are: camcamnay- *to converse* (cam- *to speak*); witwitnay- *to walk aimlessly* (wiht- *to walk*); yošyošñay- *to putter around* (yohs- *to work*); kʌčkʌčnay- *to tick-tock* (*kʌhc- is set up as V^1, but occurs only in this form). Suffix 215 may also occur after certain reduplicated V^2 stems. In formula: Reduplicated $V^2 + 215 = V^5$. Example: pahčʌkpahčʌknay- *to take a walk aimlessly* (pahčʌhk- *to take a walk*). Suffix 215 may also occur after certain V^1 stems (not reduplicated). In formula: $V^1 + 215 = V^2$. In three out of the four examples attested, the stem set up as V^1 is dependent and occurs only preceding 215: kuhnay- *to kneel* (kuh- = V^1 [but dependent]); tenay- *to stand* (*ten- [?] = V^1 [but dependent]); ?icnay- ~ ?ičnay- *to close the eyes* (*?ihc- ~ *?ihč- [?] = V^1 [but dependent]); muknay- *to stoop* (muhk- *to measure* [but with meaning *to stoop* in muku?- *to stoop* and muhkehk- *to stoop*]). Suffix 215, when after reduplicated stems, marks aimless action; i.e. action performed or repeated aimlessly or for its own sake. After non-reduplicated stems, suffix 215 marks corporeal action; i.e. action performed by the body or some body part. Verb stems formed with suffix 215 appear in intransitive verbs.

Suffix 216 -wʌy- may occur after certain sequences of V^1 stem plus reduplicated V^1 stem. In formula: V^1 + reduplicated V^1 + 216 = V^4. Examples are: nakspuputwʌy- *to knock out* (*take out by hitting*) or *beat it out* (as marimba music) (naks- *to hit* = V^1; puht- *to go out* = V^1; -wʌy- = 216); nakstʌktʌkwʌy- *to knock in* (naks- *to hit* = V^1; tʌhk- = V^1 [but dependent; underlying form of tʌhkʌy- *to enter*]; -wʌy- = 216); makputputwʌy- *to chase out* (mahk- *to chase* = V^1; puht- *to go out* = V^1; -wʌy- = 216). Suffix 216 also follows the sequence V^1 + 314 to form the V^3 stem kenewʌy- *to cast an evil eye* (ken- *to look* = V^1; -e- = 314; -wʌy- = 216). Verb stems formed with suffix 216 appear in transitive verbs.

Suffix 217 -mene?- (iterative) may follow certain V^1 stems. In formula: V^1 + 217 = V^2. Examples: kenmene?- *to see repeatedly* (ken- *to see*); tihmene?- *to arrive repeatedly* (tih- *to arrive*). Suffix 217 may also follow certain V^2 stems. In formula: V^2 + 217 = V^3. Example: witu?mene?- *to return repeatedly* (witu?- *to return*). Suffix 217 marks iterative or often-repeated action.

Suffix 218 -kʌ?y- (inceptive) may follow certain V^1 stems. In formula: V^1 + 218 = V^2. Examples: ku?tkʌ?y- *to begin to eat* (ku?t- *to eat*); mingʌ?y- *to begin to come* (min- *to come*); cʌhkʌ?y- *to begin to do* (cʌhk- *to do*); kengʌ?y- *to begin to see* (ken- *to see*); hʌkyʌ?y- *to begin to weep* (hʌy- *to weep*); muskʌ?y- *to begin to know* (muhs- *to know*). The stem ?aŋgʌ?y- *to close* may be treated as V^2 (?aŋ- = dependent stem occurring here and in ?a?ŋʌy- *to add*; -kʌ?y- = 218).[26] Suffix 218 marks inceptive action.

Suffix 219 -ho?y- (interminative) may follow certain V^1 stems. In formula: V^1 + 219 = V^2. Examples: ki?mho?y- *to continue to go up* (ki?m- *to go up*); hayho?y- *to continue to write* (hay- *to write*); nʌmho?y- *to continue to say* (nʌm- *to say*); poyho?y- *to continue to run but never arrive* (poy- *to run*). Suffix 219 may also follow certain V^2 stems. In formula: V^2 + 219 = V^3. Examples: kipsoyho?y- *to continue to think* (kipsoy- *to think much*); ho?ʌyho?y- *to continue to fill* (ho?ʌy- *to fill*). Suffix 219 marks action continued but never completed. We call this interminative.

Suffix 221 -?aŋheh- (temporary cessative) may follow certain V^1 stems. In formula: V^1 + 221 = V^2. Examples: cʌhkaŋheh- *to leave off doing* (cʌhk- *to do*); mi?naŋheh- *to leave off coming* (min- *to come*); ke?naŋheh- *to leave off seeing* (ken- *to see*). Suffix 221 marks action stopped temporarily. We term this temporary cessative.

5.4.2. Suffix of class 230 may follow certain noun and attributive stems to form verb stems. In formula: N or At + 230 = V.

Suffix 231 -?ah- (factative) may follow certain N^1 stems. This may be stated in the formula: N^1 + 231 = V^2. The following examples show -?ah- = 231 preceded by N^1; the specific N^1 is given in parentheses after each example: pʌ?nah- *to be born* (pʌn *man*); tu?ŋah- *to travel* (tuŋ *road*); tʌ?mah- *to bear fruit* (tʌm *fruit*); pakahkah- *to become cold* (pakahk(-) *cold*). Suffix 231 may also follow certain At^1 stems. In formula: At^1 + 231 = V^2. Examples: camu?ah- *to grow old* (camu *old*); wiyu?ŋah- *to become straight* (wiyuŋ *straight*); popa?- *to become white* (popo *white*); caŋga?- *to become fat* (canga *fat*); taka?yah- *to become bitter* (takay *bitter*). Suffix 231 may also follow certain N^2 stems. In formula: N^2 + 231 = V^3. Example:

[26] The verb stems ?aŋgʌ?y- and ?a?ŋʌy- could be treated as dissyllabic V^1 stems, since ?aŋ- does not occur as a stem with any assignable semantic value. However, this would mean setting up dissyllabic V^1 stems which do not have the same vowel in both syllables. And the second syllable of each of these V^1 stems would be phonemically identical with suffixes 218 and 241 respectively. Since ?aŋ-, which we have set up as a dependent stem morpheme, is phonemically identical with prefix 15, still another analysis of these two verb stems is possible. We could equate ?aŋ- with prefix 15; this would give the somewhat anomalous phenomenon of V^2 stems that consist only of a prefix plus a suffix. In formula this would be ?aŋgʌ?y- = 15 + 218 = V^2; ?a?ŋʌy- = 15 + 241 = V^2.

nʌʔpiʔnah- *to bleed* (nʌʔpin *blood*). Suffix 231 follows the dependent onomatopoetic stem hekči- to give the V² stem hekčiʔah- *to sneeze*. It also may follow the dependent stem maʔ- to give the V² stem maʔah- *to sell things*. Suffix 231, in most sequences, marks factative (i.e. 'to become so and so'); it bears a specialized meaning in a few sequences, especially after noun stems. Verb stems formed with suffix 231 appear in intransitive verbs.

5.4.3. Suffix of class 240 follows certain noun stems and certain verb stems to form verb stems. In formula: N or V + 240 = V.

Suffix 241 -ʔʌy- may follow certain N¹ stems. In formula: N¹ + 241 = V². Examples: pʌʔnʌy- *to feed* or *nourish* (pʌn *man*); nʌʔyʌy- *to name* (nʌy *name*); meʔnʌy- *to ache* (men *pain*); nahsʌy- *to get soiled* (nahs(—) *ground*); pakahkʌy- *to feel cold* (pakahk(—) *cold*); hoʔʌy- *to fill* (hoh *contents*). Suffix 241 may also follow certain N² stems. In formula: N² + 241 = V². Example: cʌmiʔʌy- *to load* (cʌmi *burden*). Suffix 241 may follow certain V¹ stems. In formula: V¹ + 241 = V². Examples: maʔŋʌy- *to go another way* (maŋ- *to go*); kiʔmʌy- *to go up another way* (kiʔm- *to go up*); maʔmʌy- *to nail* (maʔm- *to nail*); piʔʌy- *to feel warm* (pih- *to be hot*). Suffix 241 may also follow certain V² stems. In formula: V² + 241 = V². Example: nimehkʌy- *to attempt* (?) (nimehk- *to attempt* [?]). Suffix 241 may also follow certain dependent stems to form V² stems. Examples: mʌhcʌy- *to play* (mʌhc- = dependent V¹ occurring here and in mʌcik *toy*); toʔmʌy- *to draw near* (tom- = dependent V¹ occurring here and in tome *near*); ʔaʔŋʌy- *to add to* (ʔaŋ- = dependent stem occurring here and in ʔaŋgʌʔy- *to close*);[27] maʔʌy- *to sell* (maʔ- = dependent stem occurring here and in maʔah- *to sell things*); koʔmʌy- *to suppose* (*kom- = dependent stem occurring here only). Suffix 241 marks a wide range of specialized meanings.

5.4.4. Suffixes of classes 250–260 occur as shown below.

[27] See fn. 26.

Suffix 251 -X*/ʌ- (connective suffix) may follow certain V¹ stems and precede suffix 261. In formula: V¹ + 251 + 261 = V². Examples: kipʌnʌm- *to be war* (kihp- *to fight*); neʔmanʌm- *to lighten* (neʔm- *to shine*); for other examples see under suffix 261 below. Suffix 251 may also follow certain N¹ stems and precede suffix 261. In formula: N¹ + 251 + 261 = V². Example: pakakanʌm- *to be cold weather* (pakahk(—) *cold*). One example occurs with suffix 251 after a V¹ stem and before suffix 211. In formula: V¹ + 251 + 211 = V². The form is cʌkʌpʌʔ- *to turn loose* (cʌhk- *to do* = V¹; -ʌ- = 251; -pʌʔ- = 211). A few examples occur with suffix 251 after a V¹ stem and before another V¹ stem. In formula: V¹ + 251 + V¹ = V². Example: mawʌcohk- *to grow* (maŋ- *to go* = V¹; -ʌ- = 251; cohk- *to heal* or *grow* = V¹).

Suffix 261 -nʌm- (impersonal) may follow certain sequences of V¹ + 251. In formula: V¹ + 251 + 261 = V². Examples: piyʌnʌm- *to be hot weather* (pih- *to be hot*); tʌcʌnʌm- *to be dry weather* (tʌhc- *to dry*); yososanʌm- *to be sultry weather* (yosohs- *to be sultry*); hititʌnʌm- *to thunder far off* (*hitiht- = V¹ [but dependent; occurs here and in hititkʌʔ *thunder*]); mawʌnʌm- *to go en masse* (*as people go to a fiesta*) (maŋ- *to go*); kʌtʌkʌnʌm- *to pass by* (*as people on the street pass by a house all day long*) (kʌtʌhk- *to pass*); ʔitʌnʌm- *to populate* (ʔiht- *to live*). Suffix 261 may also follow certain sequences of N¹ + 251. In formula: N¹ + 251 + 261 = V². Example: pakakanʌm- *to be cold weather* (pakahk(—) *cold*). Suffix 261 occurs in certain other verb stems; the forms are: cuʔyanʌm- *to become night* (cuʔ *night* = N¹; but part of the form has not been analyzed); caʔyanʌm- *to become evening*; piʔcanʌm- *to become dark*; taŋbʌʔnʌm- *to dawn clear*. Suffix 261 marks impersonal action, i.e. generalized or mass action or weather phenomena. Verb stems formed with suffix 261 occur in intransitive verbs. These verbs are almost always in the third person and are without the number suffixes of class 530.

5.5. Compound verb stems.

5.5.1. Compound verb stems may consist of two verb stems. In formula: V + V = V. Either or both of the constituent stems appear as V^1 or V^2. Examples are given of different types.

Compounds expressed by the formula: $V^1 + V^1 = V^2$. Examples show V^1 followed by V^1; the specific V^1 stems are given in parentheses after each example: yostʌyʌy- *to work longer* (yohs- *to work*, tʌyʌy- *to stretch*); ki?mcʌ?y- ~ ki?mjʌ?y- *to quit going up* (ki?m- *to go up*, cʌ?y- *to stay* or *stop*); cʌkna?c- *to frighten* (cʌhk- *to make*, na?c- *to fear*); popyuht- *to go out running* (poy- *to run*, puht- *to go out*); kengi?m- *to look upward* (ken- *to look*, ki?m- *to go up*); camnʌktʌ?y- *to explain* (cam- *to speak*, nʌktʌ?y- *to understand*); hayt^{y}okoy- *to erase* (hay- *to write*, tokoy- *to lose*); ?ʌŋbahk- *to go to bed* (?ʌŋ- *to sleep*, pahk- *to rest*); penga?- *to choke (someone) to death* (pen- *to squeeze*, ka?- *to die* or *kill*); poŋga?- *to burn (someone) to death* (poŋ- *to burn*, ka?- *to die*); ka?ŋgʌtʌhk- *to step over* (ka?ŋ- *to step*, kʌtʌhk- *to pass*); kip?otoŋ- *to argue* kihp- *to fight*, ?otoŋ- *to speak*); ne?kscʌ?y- *to remain stuck* (ne?ks- *to stick*, cʌ?y- *to stay*); nu?kści?- *to lend* (nu?ks- *to borrow*, ci?- *to give*); ?ispʌhk- *to recognize* (?ihs- = V^1 [but dependent; appears in ?iskuy *life*]; pʌhk- *to grasp*); cʌhkihs- *to try* (cʌhk- *to do*, ?ihs- = V^1 as in preceding example).

Compounds expressed by the formula: $V^1 + V^2 = V^3$. Examples: cʌkwitu?- *to do again* (cʌhk- *to do*, witu?- *to return*); kipswitu?- *to change one's mind* (kips- *to think*, witu?- *to return*); kenwʌcʌhk- *to see anew* (ken- *to see*, wʌcʌhk- *to fix*); hamwʌcʌhk- *to remember, reverence* (ham- *to remember*, wʌcʌhk- *to fix*); kenhokʌtʌhk- *to see habitually* (ken- *to see*, hokʌtʌhk- *to weaken*); ke?naŋgʌtʌhk- *to look much* (ken- *to look*, ?aŋgʌtʌhk- = V^2 [but dependent; occurs in ?aŋgʌtʌki *very much*]); camdʌhkʌy- *to act as go-between* (cam- *to speak*, tʌhkʌy- *to enter*); camgopuŋ- *to publish* (cam- *to speak*, kopuŋ- *to sow*); cʌmnʌmaŋ- *to bear away* (cam- *to bear*, nʌmaŋ- *to take away*).

Compounds expressed by the formula: $V^2 + V^1 = V^2$. Examples: poyehuy- *to buy quickly* (poye- *to run*, huy- *to buy*); poyemaŋ- *to go quickly* (poye- *to run*, maŋ- *to go*).

Compounds expressed by the formula: $V^2 + V^2 = V^4$. Examples: pʌ?nahwʌcʌhk- *to be born again* (pʌ?nah- *to be born*, wʌcʌhk- *to fix*); hoka?aŋgʌtʌhk- *to give off much smoke* (hoka?- *to give off smoke*, ?aŋgʌtʌhk- = V^2 [but dependent]).

Compounds expressed by the formula: $V^3 + V^1 = V^4$. Example: kʌ?aŋwa?kme?c- *to make inquiry* (kʌ?aŋwa?k- *to ask a question*, me?c- *to seek*).

5.5.2. One example of a compound verb stem consists of reduplicated V^1. The form is ne?mne?m- *to shine* (ne?m- *to shine*).

5.5.3. Compound verb stems may also consist of three verb stems. In formula: V + V + V = V. In the example given, each of the three constituents is a V^1 stem. The form is kʌ?stočʌhk- *to bite to pieces* (kʌ?s- *to bite*, toy- *to hurt*, cʌhk- *to do*).

5.5.4. Compound verb stems may also consist of attributive stem plus verb stem. In formula: At + V = V. In the examples given, the attributive stem may be At^1 or At^2, the verb stem V^1 or V^2.

Compounds expressed by the formula: $At^1 + V^1 = V^2$. Examples: howikips- *to think foolishly* (howi *foolish*, kips- *to think*); namatʌks- *to chop in small pieces* (nama *small*, tʌks- *to chop*); namacihc- *to tear in small pieces* (nama *small*, cihc- *to tear*); homecoŋ- = V^2 (but dependent; occurring in the noun stem homecowa *newly wed*)[28] (home *new*, coŋ- *to meet*).

One compound expressed by the formula $At^2 + V^1 = V^3$ is ka?epa?t- *to get sick* (ka?e *sick*, pa?t- *to find*).

One compound expressed by the formula $At^1 + V^3$ is howikipskipsnay- *to act crazy*

[28] The form homecowa *newly wed* (dependent $V^2 + 315$) is a standard pun among the Zoques; its form is identical with homecowa *new cotton* (home *new* = At^1; cowa *cotton* = N^1).

(howi *foolish* = At[1]; -kipskipsnay- = V[3] [but dependent; kips- *to think* = V[1]; -nay- = 215]).

5.5.5. Compound verb stems may also consist of noun stem plus verb stem. In formula: N + V = V. The noun stem may be either N[1] or N[2]; the verb stem is V[1]. Examples are given of various types.

Compounds expressed by the formula: N[1] + V[1] = V[2]. Examples: nʌʔpʌhk- *to draw water* (nʌʔ *water*, pʌhk- *to grasp*); nʌʔcʌm- *to carry water* (nʌʔ *water*, cʌm- *to bear*); kowahnaks- *to beat the drum* (kowah *drum*, naks- *to hit*); tototuʔn- *to read* (toto *paper*, tuʔn- *to look at*); kamayohs- *to work in the cornfield* (kama *cornfield*, yohs- *to work*); kamacʌhk- *to make a cornfield* (kama *cornfield*, cʌhk- *to make*); kahwetuhk- *to pick coffee* (kahwe *coffee*, tuhk- *to pick*); kayupoks- *to ride horseback* (kayu *horse*, poks- *to sit*); ʔanehaʔs- *to toast tortillas* (ʔane *tortilla*, haʔs- *to toast*); ʔañdʸahk- *to make tortillas* (ʔane *tortilla*, tahk- *to weave*); wakatahk- *to make baskets* (waka *basket*, tahk- *to weave*); komipʌhk- *to take sacrament* (komi *Lord*, pʌhk- *to grasp*); hamakʌtʌhk- *to pass the day* (hama *day*, kʌtʌhk- *to pass*); kowapaʔt- *to be guilty* (kowa *guilt*, paʔt- *to find*); naskaʔŋ- *to go afoot* (nahs(—) *earth*, kaʔŋ- *to step*); kukweʔn- *to halve* (kuhk(—) *half*, weʔn- *to divide*); winsaʔ- *to revive* (win *self*, saʔ- *to waken*); ʔakaʔŋcʌhk- *to be round* (ʔakaʔŋ *griddle* [*comal*], cʌhk- *to do*); ʔakaʔŋ-coht- *to rise full* (i.e. *the moon*) (ʔakaʔŋ *griddle*, coht- *to rise*).

Compounds expressed by the formula: N[2] + V[1] = V[3]. Examples: ʔʌwimin- *to get sleepy* (ʔʌwi *sleepiness*, min- *to come*); puciwʌh- *to smell rotten* (puci *trash* or *decayed matter*, wʌh- *to stink*).

Note that except in the examples of the above paragraph and the last two of the paragraph preceding it, the noun stem acts semantically as incorporated object. Verb stems of this type appear in intransitive verbs.

5.5.6. Compound verb stems may also consist of a Spanish loan verb (counted here as one Zoque morpheme regardless of its analysis in Spanish) plus the V stem cʌhk- *to do*. The form of the loan is that of the Spanish infinitive with or without phonemic modification and without the final r of the Spanish form.[29] Compounds of this type are counted as V[2] stems. Examples: duracʌhk- *to last* (Spanish 'durar'); retratacʌhk- *to photograph* ('retratar'); segicʌhk- *to follow* ('seguir'); konosecʌhk- *to be acquainted with* ('conocer'); ʔaburʳicʌhk- *to get bored* ('aburrir') serbicʌhk- *to serve* ('servir'); kontestacʌhk- *to answer* ('contestar'); husilacʌhk- *to shoot* ('fusilar'; note phonemic modification in Zoque form); dilatacʌhk- *to stay* ('dilatar'); preparacʌhk- *to prepare* ('preparar').

5.5.7. A few compound V[2] stems consist of a unique morpheme plus a V[1] stem. Examples: hokʌtʌhk- *to weaken* (ho- = unique morpheme; kʌtʌhk- *to pass* = V[1]); kiʔškaʔ- *to be angry* (kiʔš- = unique morpheme; kaʔ- *to die* = V[1]); kiʔnihs- *to hate* (kiʔn- = unique morpheme; ʔihs- = V[1] [but dependent]); matoŋ- *to hear* (ma- = unique morpheme; toŋ- = V[1] [but appears only here and in the imperative verb towa *listen!* used to show astonishment]).

5.6. Morphological sequences which form verbs (Vb) may include suffixes 561, 562, 563, 564, 565; also 511, 521, 522, 531, 532, 541, 542, 551; also 711, 712, 721, 731, 732, 741, 742, 751, 752; also prefixes 111, 131, 132, 133, 121.

5.6.1. The minimum sequence which may constitute a verb (Vb) is that of a verb stem (V) plus a suffix of class 560. In formula: V + 560 = Vb. When preceded by an auxiliary (Aux) in the sentence, the minimum Vb sequence is shown by the formula 130 + V + 561 or 564. Suffixes of class 560 are mutually exclusive.

We now show minimum sequences with each of suffixes 561–564. The examples are based on the verb stems min- *to come* (V[1]),

[29] Some speakers substitute h for the r of the Spanish infinitive: durahcʌhk-, retratahcʌhk-, etc.

ken- *to look or see* (V^1), kayupoks- *to ride horseback* (V^2), camcamnay- *to converse* (V^3).

Suffix 561 -u (completive). Examples of V + 561 are: minu *he came*, kenu *he looked*, kayupoksu *he rode horseback*, camcamnayu *he conversed*. Examples of V + 561 preceded in the sentence by an auxiliary (Aux) are: nʌ minu *he is coming*, maŋba kyenu *he is going to look*. Suffix 561 in the first type of sequence illustrated marks completive aspect. This is punctiliar or completed action, usually but not always in past time. When the sequence V + 561 is preceded in the sentence by an auxiliary as in the second group of examples, suffix 561 has no assignable semantic value.

Suffix 562 -pa (incompletive). Examples of V + 562 are: minba *he comes*, kenba *he looks*, kayupokspa *he rides horseback*, camcamnapya *he converses*. Suffix 562 marks incompletive aspect. This is action not yet completed or non-punctiliar action, usually but not always in present or future time.

Suffix 563 -$X^{a}/_{ʌ}$ (imperative and negative). Examples of V + 563 are: minʌ *come!*, kena *look!*, kayupoksa *ride horseback!*, camcamnayʌ *converse!*; haminʌ *he did not come* (121 + V^1 + 563). When prefix 121 is present, the combination of 121 and 563 marks negative completive (see **5.6.4**). When prefix 121 is not present, suffix 563 marks imperative.

Suffix 564 -$X^{i}/_{ø}$. Examples of V + 564 are shown preceded by the auxiliary haʔn: haʔn mini *he does not come*, haʔn kyene *he does not look*. Suffix 564 occurs only in verbs preceded by certain auxiliaries (viz. haʔn and ʔuy; see **6**). It has no assignable semantic value (cf. suffix 561 above, in sequences preceded by an auxiliary).

Suffix 565 -ʔi- (hortatory). In the case of suffix 565, the minimum sequence which may constitute a verb (Vb) is that of verb stem (V) plus suffix 531 plus suffix 565; this is followed by the enclitic pronoun tʌ. In formula: V + 531 + 565 — Prn = Vb — Prn.[30] Examples are based on poks- *to sit* (V^1), cʌhk- *to do* (V^1), ken- *to see* (V^1): poksta?mitʌ *let us sit down!* (V^1 + 531 + 565 — Prn); ncʌkta?mitʌ *let us do it!* (131 + V^1 + 531 + 565 — Prn); ŋgenda?mitʌ *let us see it!* (131 + V^1 + 531 + 565 — Prn). Suffix 565 marks hortatory. This is a 1st person plural form corresponding in meaning (but not in form) to the imperative.

5.6.2. The minimum sequence V + 560 = Vb may be extended by the insertion of one or more suffixes of classes 510–550 between the verb stem and the class 560 suffix. In formula: V ± 510 ± 520 ± 530 ± 540 ± 550 + 560 = Vb.

Suffix class 510 is represented by suffix 511 -hay- (benefactive) which occurs immediately after the verb stem. When suffix 511 occurs, a suffix of class 560 is always present; a suffix of class 520, 530, 540, or 550 may appear between 511 and 560. In formula: V + 511 ± 520 ± 530 ± 540 ± 550 + 560 = Vb. In the following examples, suffix 511 immediately precedes a suffix of class 560: čiʔhayu *he gave it to him for him* (132 + V^1 + 511 + 561); čʌkhayu *he did it for him* (132 + V^1 + 511 + 561); čʌkhapya *he does it for him* (132 + V^1 + 511 + 562); čamhayu *he said it to him* (132 + V^1 + 511 + 561). In the following examples, a suffix of class 520, 530, 540, or 550 appears between 511 and 560: čʌkhayatʌhu *they did it for them* (132 + V^1 + 511 + 522 + 561); ncamhaytᵛamu *I told you* (pl.) (131 + V^1 + 511 + 531 + 561); čamhayahu *he told them* (132 + V^1 + 511 + 532 + 561); čamhaytᵛoʔyu *he wanted to tell him* (132 + V^1 + 511 + 541 + 561); čamhaytᵛʌʔu *he intended to tell him* (132 + V^1 + 511 + 542 + 561); kyenhakyeʔtu *he also looked at it for him* (132 + V^1 + 511 + 551 + 561).

[30] All the types of sequences that form verbs (Vb) may be followed by one or more enclitics. Note that the enclitic is not considered as morphologically part of the verb; it is set up as having a syntactic relation to it. This is shown in the formula by connecting the enclitic to the verb by a dash [—] instead of a plus sign [+]; also by indicating both syntactic units (verb and enclitic) separately on the right-hand side of the equation (when the formula is given as an equation).

Suffix 511 marks benefactive action, and verbs with suffix 511 are transitive.

Suffixes of class 520 are mutually exclusive.

Suffix 521 -X*/ʌtʌh- (mandatory or reciprocal, non-3rd person plural recipient) may follow the verb stem; it may also follow a sequence of verb stem plus suffix of class 510. When suffix 521 occurs, a suffix of class 560 is always present; a suffix of class 530 may appear between 521 and 560. In formula: V ± 510 + 521 ± 530 + 560 = Vb. In the following examples, suffix 521 follows the verb stem and immediately precedes a suffix of class 560: nipʌtʌhpa *I have it planted* (V^1 + 521 + 562); nyahnipʌtʌhpa?s *I have it planted* (131 + V^2 + 521 + 562 — Prn); yahkenatʌhu *he had it looked at* (V^2 + 521 + 561); nakyenatʌhpatʌh *we see each other* (111 + V^1 + 521 + 561 — Prn). In the following example, suffix 521 follows suffix 511: čʌkhayatʌhu *he had it done for him* (132 + V^1 + 511 + 521 + 561). In the following examples, a suffix of class 530 appears between 521 and 560: nyahnipʌtʌhtambamis *you* (pl.) *have it planted* (131 + V^2 + 521 + 531 + 562 — Prn); yahnipʌtʌhyahu *they had it planted* (V^2 + 521 + 532 + 561). Suffix 521 marks reciprocal action when in sequences that have prefix 111. In other sequences, frequently but not always after V^2 stems containing prefix 21, suffix 521 marks mandatory action. This is action done by order of the subject; it may or may not be carried out by the subject. The recipient of the action (whether direct object of a transitive verb or plural subject of an intransitive reciprocal verb) in either type of sequence is other than 3rd person plural. Verbs with suffix 521 are intransitive if prefix 111 (reciprocal) appears; otherwise they are transitive.

Suffix 522 -yatʌh- (mandatory or reciprocal, 3rd person plural recipient) follows the verb stem. When suffix 522 occurs, a suffix of class 560 is always present. In formula: V + 522 + 560 = Vb. Examples: ñu?myatʌhu *they robbed them* (132 + V^1 + 522 + 561); či?yatʌhu *he gave it to them* (132 + V^1 + 522 + 561); yahyamyatʌhu *he made them wear it* (V^2 + 522 + 561); ŋgeñatʌhumis *you looked at them* (131 + V^1 + 522 + 561 — Prn); nayahka?yatʌhpa *they kill each other* (111 + V^2 + 522 + 562). Suffix 522 marks reciprocal action when in sequences that have prefix 111. In other sequences, suffix 522 marks mandatory action. The recipient of the action (whether direct object of a transitive verb or plural subject of an intransitive reciprocal verb) in either type of sequence is 3rd person plural. Suffix 522 also appears without its mandatory value, indicating merely 3rd person plural object (cf. suffix 532, which is ambiguous as to the item pluralized). Verbs with suffix 522 are intransitive if prefix 111 (reciprocal) appears; otherwise they are transitive.

Suffixes of class 530 are mutually exclusive. A suffix of class 530 may follow the verb stem; it may also follow a sequence of verb stem plus a suffix of class 510 or 520. When a suffix of class 530 occurs, a suffix of class 560 is always present; a suffix of class 540 or 550 may appear between 530 and 560. In formula: V ± 510 ± 520 + 530 ± 540 ± 550 + 560 = Vb.

Suffix 531 -taM- (1st or 2nd person plural) is now shown in possible sequences. In the following examples, suffix 531 follows the verb stem and immediately precedes a suffix of class 560: mindamu *you* (pl.) or *we came* (V^1 + 531 + 561); nɔʌktamumis *you* (pl.) *did it* (131 + V^1 + 531 + 561 — Prn); nɔʌktamutʌs *we did it* (131 + V^1 + 531 + 561 — Prn); nhyo?ktamumih *he awaited you* (pl.) (133 + V^1 + 531 + 561 — Prn); nho?ktamu?smih *I awaited you* (pl.) (131 + V^1 + 531 + 561 — Prn — Prn); heksta?mitʌ *let us hurry!* (V^1 + 531 + 565 — Prn). In the following examples, suffix 531 follows a suffix of class 510 or 520: ncamhaytʸamumis *you* (pl.) *told him* (131 + V^1 + 511 + 531 + 561 — Prn); našunʌtʌhtambamih *you* (pl.) *love each other* (111 + V^1 + 521 + 531 + 562 — Prn). In the following examples, a suffix of class 540 or 550 appears between

531 and 560: mindandʌ?ʌ *plan to come!* (pl.) (V¹ + 531 + 542 + 563); ?yʌŋdañdʸo?wya?mih *you* (pl.) *were sleepy already* (132 + V¹ + 531 + 541 + 561 + 721 — Prn); ŋgendaŋge?tu *you* (pl.) *also saw it* (131 + V¹ + 531 + 551 + 561). Suffix 531 marks 1st or 2nd person plural subject of an intransitive verb, or 1st or 2nd person plural subject or object of a transitive verb.

Suffix 532 -yah- (3rd person plural) is now shown in possible sequences. In the following examples, suffix 532 follows the verb stem and immediately precedes a suffix of class 560: maŋyahu *they went* (V¹ + 532 + 561); hyo?kyahu *he awaited them* or *they awaited him* (132 + V¹ + 532 + 561); nho?kyahu?s *I awaited them* (131 + V¹ + 532 + 561 — Prn). In the following examples, suffix 532 follows a suffix of class 510 or 520: čamhayahu *he told them* or *they told him* (132 + V¹ + 511 + 532 + 561); yahnipʌtʌhyahu *they had it planted* (V² + 521 + 532 + 561). In the following examples, a suffix of class 540 or 550 appears between 532 and 560: maŋyahtʌ?u *they intended to go* (V¹ + 532 + 542 + 561); čʌkyahke?tu *they also did it* (132 + V¹ + 532 + 551 + 561). Suffix 532 marks 3rd person plural subject of an intransitive verb, or 3rd person plural subject or object of a transitive verb (cf. suffix 522, which may be used to mark 3rd person plural object unambiguously).

Suffixes of class 540 are mutually exclusive. A suffix of class 540 may follow the verb stem; it may also follow a sequence of verb stem plus a suffix of class 510 or 530. When a suffix of class 540 occurs, a suffix of class 560 is always present; suffix of class 550 may appear between 540 and 560. In formula: V ± 510 or 530 + 540 + 560 = Vb.

Suffix 541 -tʸo?y- (desiderative) is now shown in possible sequences. In the following examples, suffix 541 follows the verb stem and immediately precedes a suffix of class 560: ?ʌŋdʸo?pya *I am sleepy* (V¹ + 541 + 562); čʌktʸo?yu *he wanted to do it* (132 + V¹ + 541 + 561). In the following examples, suffix 541 follows a suffix of class 510 or 530: čamhaytʸo?yu *he wanted to tell him* (132 + V¹ + 511 + 541 + 561); ?yʌŋdañdʸo?wya?mih *you* (pl.) *are sleepy already* (132 + V¹ + 531 + 541 + 561 + 721 — Prn). In the following example, suffix of class 550 appears between 541 and 560: ?ʌŋdʸo?kye?tpa *he is also sleepy* (V¹ + 541 + 551 + 562). Suffix 541 marks desiderative mode.

Suffix 542 -tʌ?- (intentive) is now shown in possible sequences. In the following examples, suffix 542 follows the verb stem and immediately precedes a suffix of class 560: maŋdʌ?u *he intended to go* (V¹ + 542 + 561); kaʔtʌ?u *he was about to die* (V¹ + 542 + 561); nu?kstʌ?u *I had hired her* (*but she did not come*) (V¹ + 542 + 561); kundʌ?pa *he fell* (*but got right up*) (V¹ + 542 + 562); mindʌ?ʌ *plan to come!* (V¹ + 542 + 563). In the following examples, suffix 542 follows a suffix of class 510 or 530: čamhaytʸʌ?u *he intended to tell him* (132 + V¹ + 511 + 542 + 561); mindandʌ?ʌ *plan to come!* (pl.) (V¹ + 531 + 542 + 563); maŋyahtʌ?u *they started to go* (*but came back*) (V¹ + 532 + 542 + 561). In the following example, suffix of class 550 appears between 542 and 560: maŋdʌ?ke?tu *he also was about to go* (V¹ + 542 + 551 + 561). Suffix 542 marks intentive mode. This is action projected or even begun, but not necessarily carried out.

Suffix class 550 is represented by suffix 551 -ke?t- (repetitive) which occurs immediately before a suffix of class 560. It may follow the verb stem, or a suffix of class 510, 530, or 540 may appear between the verb stem and 551. In formula: V ± 510 or 530 or 540 + 550 + 560 = Vb. In the following examples, suffix 551 immediately follows the verb stem: witke?tu *he also walked* (V¹ + 551 + 561); kenge?tu *he also looked* (V¹ + 551 + 561); kenge?tpa *he also looks* (V¹ + 551 + 562); minge?tu *he came again* (V¹ + 551 + 561); minge?tutih *he came again* (V¹ + 551 + 561 + 741); minge?tatih *come again!* (V¹ + 551 + 563 + 741). In the fol-

lowing examples, a suffix of class 510, 530, or 540 appears between the verb stem and 551: kyenhakye?tu *he also looked at it for him* (132 + V¹ + 511 + 551 + 561); mindaŋge?tu *you* (pl.) *also came* (V¹ + 531 + 551 + 561); ?ʌŋdʸo?kye?tpa *I am also sleepy* (V¹ + 541 + 551 + 562). Suffix 551 marks repetitive aspect, action repeated by the same actor or another actor. When 551 occurs in sequences which have suffix 741, the action is repeated by the same actor (usually indicated in translation by *again*); when in other sequences the action may be repeated by the same actor or by another actor (usually indicated in translation by *also*).

5.6.3. The minimum sequence V + 560 = Vb (**5.6.1**) or its extensions as shown in **5.6.2** may either constitute a syntactically complete verb construction or be preceded by an auxiliary (sequences with suffix 564 are always preceded by an auxiliary). When it is preceded by an auxiliary, it constitutes a maximum morphological sequence; but when it appears as a syntactically complete verb construction (i.e. without an auxiliary) it may be further extended by the addition of one or more suffixes of class 700 after the class 560 suffix. In formula: V ± 500ˣ + 560 ± 710 ± 720 ± 730 ± 740 ± 750 = Vb.

Suffixes of class 710 (subordinative) are mutually exclusive. When a suffix of class 710 occurs, it immediately follows the class 560 suffix. Verbs with a suffix of class 710 are syntactically subordinate.

Suffix 711 -mʌy (locative subordinative) appears word final. In formula: V ± 500ˣ + 560 + 711 = Vb. Examples: ?ihtumʌy *where he is* (V¹ + 561 + 711); ?ihtʸahumʌy *where they are* (V¹ + 532 + 561 + 711); kyenumʌy *where he saw it* (132 + V¹ + 561 + 711); čʌkpamʌy *where he does it* (132 + V¹ + 562 + 711). Suffix 711 marks locative (usually translatable by *where*).

Suffix 712 -?k (temporal subordinative) may appear word final or be followed by one or more suffixes of classes 720–740. In formula: V ± 500ˣ + 560 + 712 ± 720 ± 730 ± 740 = Vb. In the following examples suffix 712 is word final: minba?k *when it comes* (V¹ + 562 + 712); kyenu?k *when he saw him* (132 + V¹ + 561 + 712); poksu?k *seated* or *when he sat* (V¹ + 561 + 712); pokšahu?k *seated* or *when they sat* (V¹ + 532 + 561 + 712). In the following examples, one or more suffixes of classes 720–740 follow suffix 712: minba?ka *when he has already come* (V¹ + 562 + 712 + 721); kyenu?ka *when he had already seen him* (132 + V¹ + 561 + 712 + 721); ?ihtu?kmah *when I was still (there)* (V¹ + 561 + 712 + 742); ?ihtu?kšehtih *just as I always am* (V¹ + 561 + 712 + 732 + 741); čʌkpašehmah *like he still does it* (132 + V¹ + 562 + 732 + 742). Suffix 712 marks temporal (usually translated by *when* or by a participle).

Suffix class 720 is represented by suffix 721 -?a ~ -a?M- ~ -a?a (perfective); the alternant -?a appears in word final in certain sequences; -a?a appears in word final in certain other sequences; -a?M- appears in non-final position or before an enclitic. Suffix 721 may follow the class 560 suffix; or suffix 712 may appear between 560 and 721. Suffix 721 may be word final or be followed by a suffix of class 730. In formula: V ± 500ˣ + 560 ± 712 + 721 ± 730 = Vb. In the following examples, suffix 721 immediately follows a class 560 suffix (some of the sequences shown are followed by an enclitic pronoun): minwa?a *he already came* (V¹ + 561 + 721); kyenwa?a *he already saw him* (132 + V¹ + 561 + 721); ŋgenwa?mas *I already saw him* (131 + V¹ + 561 + 721 — Prn); ŋgenwa?mis *you already saw him* (131 + V¹ + 561 + 721 — Prn); ŋgendamwa?mis *you* (pl.) *already saw him* (131 + V¹ + 531 + 561 + 721 — Prn); kyeñahwa?a *they already saw him* (132 + V¹ + 532 + 561 + 721); ?yʌŋdañdʸo?-wya?mih *you* (pl.) *are sleepy already* (132 + V¹ + 531 + 541 + 561 + 721 — Prn); minge?twa?a *he already came again* (V¹ + 551 + 561 + 721); kyenba?a *he already*

sees him (132 + V¹ + 562 + 721); kena? *look now!* (V¹ + 563 + 721); mina? *come now!* (V¹ + 563 + 721); ncʌkta?mi?andʌ *let us do it already!* (131 + V¹ + 531 + 565 + 721 — Prn); maŋwa?sʌ?ŋ *perhaps he already went* (V¹ + 561 + 721 + 731). In the following examples, suffix 712 appears between the class 560 suffix and suffix 721: kyenu?ka *when he had already seen him* (132 + V¹ + 561 + 712 + 721); minba?ka *when he has already come* (V¹ + 562 + 712 + 721). Suffix 721 marks perfective aspect. When in sequences with suffix 561 (completive), perfective aspect is action previously completed; when in sequences with suffix 562, 563, or 565, it is action in the immediate time context. In either type of sequence, the perfective aspect is usually translated by *already* (Spanish 'ya').

Suffixes of class 730 are mutually exclusive. A suffix of class 730 may follow the class 560 suffix; or a suffix of class 710 or 720 may appear between 560 and 730. A suffix of class 730 may be word final or be followed by certain suffixes of classes 740–750. In formula: V ± 500ˣ + 560 ± 710 ± 720 + 730 ± 740 ± 750 = Vb.

Suffix 731 -hsʌ?ŋ (potential) is now shown in possible sequences. In the following examples, suffix 731 immediately follows a class 560 suffix (some of the sequences are followed by an enclitic pronoun): kenbahsʌ?ŋ *he may look* (V¹ + 562 + 731); ki?mbahsʌ?ŋ *he may go up* (V¹ + 562 + 731); maŋuhsʌ?ŋ *perhaps he went* (V¹ + 561 + 731); ŋgi?mdambahsʌ?ŋmih *you* (pl.) *may go up* (131 + V¹ + 531 + 562 + 731 — Prn); minbahsʌ?ŋ *he may come* (V¹ + 562 + 731); minbahsʌ?ŋdih *he may come sometime* (V¹ + 562 + 731 + 741). In the following example, suffix 721 appears between the class 560 suffix and 731: maŋwa?sʌ?ŋ *perhaps he already went* (V¹ + 561 + 721 + 731). Suffix 731 marks potential aspect, i.e. action which is possible or doubtful.

Suffix 732 -šeh (similative subordinative) appears in verbs which are syntactically subordinate. In the following examples, suffix 732 immediately follows a class 560 suffix (some of the sequences are followed by an enclitic pronoun): čʌhkušeh *like he did it* (132 + V¹ + 561 + 732); ncʌhkušehmis *like you did it* (131 + V¹ + 561 + 732 — Prn); čamhayušeh *as he told him* (132 + V¹ + 511 + 561 + 732); čʌkyahušeh *like they did it* (132 + V¹ + 532 + 561 + 732); čʌkpašeh *like he does it* (132 + V¹ + 562 + 732); čʌkpašehmah *like he still does it* (132 + V¹ + 562 + 732 + 742). In the following examples, a suffix of class 710 appears between 560 and 732: ?ihtu?kšehtih *just as I always am* (V¹ + 561 + 712 + 732 + 741). Suffix 732 marks similative (usually translated by *like* or *as*).

Suffixes of class 740 are mutually exclusive. A suffix of class 740 may follow the class 560 suffix; or one or more suffixes of classes 710–730 may appear between 560 and 740. A suffix of class 740 may be word final or be followed by a suffix of class 750. In formula: V ± 500ˣ + 560 ± 710 ± 720 ± 730 + 740 ± 750 = Vb.

Suffix 741 -tih (limitational-indefinite) is now shown in possible sequences. In the following examples, suffix 741 immediately follows a class 560 suffix (some of the sequences are followed by an enclitic pronoun): minutih *he merely came* (V¹ + 561 + 741); minbati?ʌh *I shall come sometime* (V¹ + 562 + 741 — Prn); ncʌhkuti?ʌs *I merely did it* (131 + V¹ + 561 + 741 — Prn); nʌmhayuti?ʌs *I merely told him* (V¹ + 511 + 561 + 741 — Prn); minbatiha *is he coming sometime?* (V¹ + 562 + 741 + 751). Suffix 741 frequently occurs in a sequence that contains suffix 551: minge?tpatih *he will come again* (V¹ + 551 + 562 + 741); čamhakye?tutih *he told him again* (132 + V¹ + 511 + 551 + 561 + 741); minge?tpatiha *will he come again?* (V¹ + 551 + 562 + 741 + 751). In the following examples, one or more suffixes of classes 710–730 appear between 560 and 741: ?ihtumʌytʸih *just where he is* (V¹ + 561 + 711 + 741); minbahsʌ?ŋdih *he may come sometime* (V¹ + 562 + 731 + 741); ?ihtu?kšehtih *just as I*

always am (V^1 + 561 + 712 + 732 + 741); minu?ktih *just when he came* (V^1 + 562 + 712 + 741). When suffix 741 occurs in certain sequences, it marks limitational aspect (often translatable by *just* or *merely*); in certain other sequences it marks an indefinite aspect roughly translatable by *sometime*; informants tend to translate it in Spanish by 'siempre' in its indefinite sense). When suffix 741 occurs in sequences that contain suffix 551, the combined meaning of these two suffixes is that the action is repeated by the same subject (usually translated *again*).

Suffix 742 -mah (durative) is now shown in possible sequences. In the following examples, suffix 742 immediately follows a class 560 suffix (some of the sequences are followed by an enclitic pronoun): minbamah *he is still coming* (V^1 + 562 + 742); ŋgenbama?ʌs *I still see it* (131 + V^1 + 562 + 742 — Prn); ŋgenuma?ʌs *I still saw it* (131 + V^1 + 561 + 742 — Prn); nhahkuma?ʌs *I just now cut it* (131 + V^1 + 561 + 742 — Prn); minbamaha *will he still come?* (V^1 + 562 + 742 + 751). In the following examples, a suffix of class 710 or 730 appears between 560 and 742: ?ihtu?kmah *when I was still (there)* (V^1 + 561 + 712 + 742); čʌkpašehmah *like he still does it* (132 + V^1 + 562 + 732 + 742). Suffix 742 marks durative aspect. This is action begun in the past or present and continuing into the present or future; or in some instances, action just terminated (informants translate it quite consistently in Spanish by 'todavía').

Suffixes of class 750 are mutually exclusive; they appear in word final (or followed by an enclitic).

Suffix 751 -ha (interrogative) may follow a class 560 suffix; or a suffix of class 740 may appear between 560 and 751. In formula: V ± 500^x + 560 ± 740 + 751 = Vb. In the following examples, suffix 751 immediately follows a class 560 suffix: minuha *did he come?* (V^1 + 561 + 751); minbaha *does he come?* (V^1 + 562 + 751); minbaha?ʌh *do I come?* (V^1 + 562 + 751 — Prn). In the following examples, a suffix of class 740 appears between 560 and 751: ncʌhkutiha *did you do it?* (131 + V^1 + 561 + 741 + 751); minbamaha *will he still come?* (V^1 + 562 + 742 + 751); minge?tpatiha *will he come again?* (V^1 + 551 + 562 + 741 + 751). Suffix 751 marks interrogative mode, i.e. a question answerable by 'yes' or 'no'.

Suffix 752 is -?un ~ -?n (quotative); conditions of alternation are not determined; there appears to be optional choice of alternants in certain sequences. Suffix 752 may follow a class 560 suffix; or a suffix of class 710 may appear between 560 and 752. In formula: V ± 500^x + 560 ± 710 + 752 = Vb. In the following examples, suffix 752 immediately follows a class 560 suffix: nu?ku?n *it arrived (it is said)* (V^1 + 561 + 752); wyahtu?n *he tied it (it is said)* (132 + V^1 + 561 + 752); ñʌmaŋu?n *they took it away (is said)* (132 + V^2 + 561 + 752); ñʌpuht?ahu?n *he took them out (it is said)* (132 + V^2 + 532 + 561 + 752); ñʌmhayu?n *he told her (it is said)* (132 + V^1 + 511 + 561 + 752); pya?tu?n *he found him (it is said)* (132 + V^1 + 561 + 752); pya?tke?tu?n *he also found him (it is said)* (132 + V^1 + 551 + 561 + 752); nʌmba?n *he would say (it is said)* (V^1 + 562 + 752); hʌpya?n *he would weep (it is said)* (V^1 + 562 + 752); kyocamba?un *it announces it (it is said)* (132 + V^2 + 562 + 752); čʌkyahpa?n *they did it (it is said)* (132 + V^1 + 532 + 562 + 752). In the following example, suffix 711 appears between 560 and 752: wahtumʌ?yun *where (it is said) they are tied* (V^1 + 561 + 711 + 752). Suffix 752 marks quotative mode. It occurs mostly in story telling but occasionally in conversation where the speaker implicitly disclaims responsibility for the assertion. It appears to be used by only some speakers, and by them sparingly. Informants never attempt to translate it into Spanish; the quotative meaning and the translation *it is said* are deduced from contexts.

5.6.4. The minimum sequence V + 560 = Vb (**5.5.1**) or its suffixial extensions (**5.5.2** and **5.5.3**) may be extended by the addition

of one or more prefixes of class 100. The simplest formula is: 100 + V + 560 = Vb. With prefixial and possible suffixial extensions, the formula is extended to: ± 120 ± 130 ± 110 + V ± 500^{x} + 560 ± 700^{x} = Vb.

Prefix class 110 is represented by prefix 111 nay- (reciprocal) which occurs immediately before the verb stem. It may be in word initial, or it may be preceded by a prefix of class 120 or 130. When prefix 111 occurs in a sequence, suffix 521 or 522 is usually but not always present. In formula: ± 120 or 130 + 110 + V ± 500^{x} + 560 ± 700^{x} = Vb. In the following examples, prefix 111 is word initial: nakyenatʌhpatʌh *we see each other* (111 + V^{1} + 521 + 562 — Prn); našunʌtʌhpatʌh *we love each other* (111 + V^{1} + 521 + 562 — Prn); našunʌtʌhtambamih *you* (pl.) *love each other* (111 + V^{1} + 521 + 531 + 562 — Prn); načaŋdamumih *you* (pl.) *hit each other* (111 + V^{1} + 531 + 561 — Prn); načawʌtʌhtamumih *you* (pl.) *hit each other* (111 + V^{1} + 521 + 531 + 561 — Prn); nayahka?yatʌhpa *they kill each other* (111 + V^{2} + 522 + 562); načawʌtʌhtamʌ *hit each other!* (111 + V^{1} + 521 + 531 + 563). In the following examples, prefix 111 is preceded by a prefix of class 120 or 130: hañašunʌtʌhtamʌtʌh *we did not like each other* (121 + 111 + V^{1} + 521 + 531 + 563 — Prn); hañakyenatʌhtamʌtʌh *we did not see each other* (121 + 111 + V^{1} + 521 + 531 + 563 — Prn); hañakyenatʌhya *they did not see each other* (121 + 111 + V^{1} + 521 + 563); nʌ ñačaŋyatʌhu *they are hitting each other* (Aux ✱ 132 + 111 + V^{1} + 522 + 561); nʌ ñayho?kyatʌh(yah)u *they are waiting for each other* (Aux ✱ 132 + 111 + V^{1} + 522 ± 532 + 561). Prefix 111 marks reciprocal action. Verbs with prefix 111 are intransitive.

A prefix of class 130 (person markers) may immediately precede the verb stem; or prefix of class 110 may appear between 132 and the stem. A prefix of class 130 may begin a word, or may be preceded by prefix of class 120. In formula: ± 120 + 130 ± 110 + V ± 500^{x} + 560 ± 700^{x} = Vb.

Prefix 131 N- may occur in a transitive verb, either with or without a preceding auxiliary (Aux). Minimum sequences with prefix 131 are: 131 + V + 560 = Vb; Aux ✱ 131 + V + 560 = Aux ✱ Vb. Examples are shown with both minimal and prefixially extended sequences; additional examples with suffixial extensions have been included in the sections on suffixes: nc∧hku *I* or *we* or *you did it* (131 + V^{1} + 561); ŋgenba *I* or *we* or *you see it* or *I see you* or *you see me* (131 + V^{1} + 562); haŋgyena?s *I did not see it* (121 + 131 + V^{1} + 563 — Prn); hañǰʌkʌmis *you did not do it* (121 + 131 + V^{1} + 563 — Prn); hañǰʌktamʌmis *you* (pl.) *did not do it* (121 + 131 + V^{1} + 531 + 563 — Prn); nʌ nc∧hku *I* or *you are doing it* (Aux ✱ 131 + V^{1} + 561); nʌ ŋgenu *I* or *we* or *you are seeing it* or *I am seeing you* or *you are seeing me* (Aux ✱ 131 + V^{1} + 561). In transitive verbs, prefix 131 marks 1st or 2nd person subject, unspecified object. When the context without personal pronoun would leave the sequence ambiguous, a personal pronoun is found to occur in the sequence. This is seen in some of the above examples and in the following: ŋgenu?ʌs *I saw it* (131 + V^{1} + 561 — Prn); ŋgenu?smih *I saw you* (131 + V^{1} + 561 — Prn — Prn); ŋgenumisʌh *you saw me* (131 + V^{1} + 561 — Prn — Prn); nʌ?s ŋgenu *I am seeing it* (Aux — Prn ✱ 131 + V^{1} + 561); nʌmis ŋgenu *you are seeing it* (Aux — Prn ✱ 131 + V^{1} + 561); nʌ?smih ŋgenu *I am seeing you* (Aux — Prn — Prn ✱ 131 + V^{1} + 561).

Prefix 131 may also occur in an intransitive verb with (but not without) a preceding auxiliary in the sequence. The minimum sequence is: Aux ✱ 131 + V + 560 = Aux ✱ Vb. Examples are: nʌ mbuhtu *I* or *we are going out* (Aux ✱ 131 + V^{1} + 561); nʌ?h ŋgenu *I am looking* (Aux — Prn ✱ 131 + V^{1} + 561); nʌtʌh ŋgenu *we are looking* (Aux — Prn ✱ 131 + V^{1} + 561); ha?nʌh ŋgene *I do not look* (Aux — Prn ✱ 131 + V^{1} + 564). In intransitive verbs with auxil-

iary, prefix 131 marks 1st (not 2nd) person subject.

Prefix 132 y- may occur in a transitive verb, either with or without a preceding auxiliary in the sequence. Minimum sequences with prefix 132 are: 132 + V + 560 = Vb; Aux # 132 + V + 560 = Aux # Vb. Examples are: kyenu *he saw it* (132 + V^1 + 561); čʌkpa *he does it* (132 + V^1 + 562); hačʌkʌ *he did not do it* (121 + 132 + V^1 + 563); nʌ čʌhku *he is doing it* (Aux # 132 + V^1 + 561). In transitive verbs, prefix 132 marks 3rd person subject and 3rd person object.

Prefix 132 may also occur in an intransitive verb with (but not without) a preceding auxiliary in the sequence. The minimum sequence is: Aux # 132 + V + 560 = Aux # Vb. Examples are: nʌ pyuhtu *he is going out* (Aux # 132 + V^1 + 561); nʌ kyenu *he is looking* (Aux # 132 + V^1 + 561); haʔn kyene *he does not look* (Aux # 132 + V^1 + 564); nʌ kyayupoksu *he is riding horseback* (Aux # 132 + V^2 + 561); nʌ ñayhamyatʌhu *they are remembering each other* (Aux # 132 + 111 + V^1 + 522 + 561). In intransitive verbs with auxiliary, prefix 132 marks 3rd person subject.

Prefix 133 Ny- may occur in a transitive verb, either with or without a preceding auxiliary in the sequence. Minimum sequences with prefix 133 are: 133 + V + 560 = Vb; Aux # 133 + V + 560 = Aux # Vb. Examples are: ŋgyenu *he saw you* (133 + V^1 + 561); ñjaŋu *he slapped you* (133 + V^1 + 561); ñjʌkhayu *he did it for you* (133 + V^1 + 511 + 561); nʌ ñjaŋu *he is slapping you* (Aux # 133 + V^1 + 561); nʌ ŋgyenu *he is seeing you* (Aux # 133 + V^1 + 561). In transitive verbs, prefix 133 marks 3rd person subject, 2nd person object.

Prefix 133 may also occur in an intransitive verb, either with or without a preceding auxiliary in the sequence. Minimum sequences are: 133 + V + 560 = Vb; Aux # 133 + V + 560 = Aux # Vb. Examples are: ñjiŋu *you bathed* (133 + V^1 + 561); ŋgyenba *you look* (133 + V^1 + 562); haŋgyenamih *you did not look* (121 + 133 + V^1 + 563 — Prn); nʌ ñjiŋu *you are bathing* (Aux # 133 + V^1 + 561); nʌ ŋgyenu *you are looking* (Aux # 133 + V^1 + 561); haʔnmih ŋgyene *you do not look* (Aux — Prn # 133 + V^1 + 564). In intransitive verbs, prefix 133 marks 2nd person subject.

Prefix class 120 is represented by prefix 121 hay- (negative completive) which appears only in word initial. It may immediately precede the verb stem, or a prefix of class 130 or 110 may appear between 121 and the stem. When prefix 121 occurs, suffix 563 is always present. In formula: 120 ± 130 ± 110 + V ± 500^x + 563 ± 700^x = Vb. In the following examples, prefix 121 immediately precedes the verb stem: hakyena *he did not look* (121 + V^1 + 563); haminʌ *he did not come* (121 + V^1 + 563); haminʌtih *he has not come yet* (121 + V^1 + 563 + 741); hamindamʌtih *you* (pl.) *have not come yet* (121 + V^1 + 531 + 563 + 741). In the following examples, a prefix of class 130 or 110 appears between 121 and the verb stem: hakyena *he did not see it* (121 + 132 + V^1 + 563); haŋgyenamih *you did not look* (121 + 133 + V^1 + 563 — Prn); haŋgyenamis *you did not see it* (121 + 131 + V^1 + 563 — Prn); hañjʌktamʌmis *you* (pl.) *did not do it* (121 + 131 + V^1 + 531 + 563 — Prn); hañakyenatʌhtamʌtʌh *we did not see each other* (121 + 111 + V^1 + 521 + 531 + 563 — Prn). One example has been observed in which an attributive stem and a pronoun appear between 121 and the verb stem in a sequence which would be, by our present analysis, on the border between syntactic and morphological: haya?ay mih itʌ *you are not far* (121 + At # Prn # V + 563). In combination with suffix 563, prefix 121 marks negative mode and completive aspect (in contrast to the incompletive aspect of the negative, which is marked by the auxiliary haʔn plus a verb; see **6**).

COVERT (OR ZERO) MORPHEMES AND MORPHEMIC JUNCTURE*

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0. Zero morpheme in Delaware
1. Defining the Yoruba verb
2. Yoruba morpheme classes
3. Yoruba verb morphophonemics
4. Methodological problems and possible solutions

0. Harris,[1] in his Structural Restatement of Voegelin's Delaware,[2] deals with the problem of the sequences /əli . . . n/ *indeed* and /n/ *indeed*. In some environments these are in free variation, while in some others only /n/ occurs. Two possible solutions seem ndicated: either /əli/ and /n/ are two separate morphemes, the first of which never occurs except when the second is present, or (and this is the solution that Harris prefers), /əli . . . n/ and /n/ are positional variants of a single morpheme. The second solution involves setting up what Harris calls a *zero morpheme*, as occurring before /əli . . . n/, 'in order to differentiate the environment in which the /əli . . . n/ variant occurs from that in which /n/ occurs by itself'. He footnotes: 'The procedure here is similar to that in setting up junctures, which are zero elements defined so as to differentiate two occurrences of what would otherwise be identical environments. This zero yields a simpler system than would keeping the /əli/ as a separate morpheme, only if we can identify the zero as an alternant of some other (zero) morphemes in the language'.[3]

1. In Yoruba[4] there is a morpheme /ma:$_7$/[5] which indicates repetitive aspect. No utterance ends with this morpheme; the class of morphemes which may immediately follow it may be defined as VERB STEMS. We may extend this class by including in it all sequences of two or more morphemes which may replace a monomorphemic verb stem in this position. For example, /lɔ$_2$/ *go*, and /rị$_2$/ *walk* are monomorphemic verb stems by this definition. However, either of them may be replaced by the sequence /rị$_2$]ɔ$_2$/ *to go* (*by walking*), which is, then, a bimorphemic verb stem.

* [Though mostly illustrated with data from an African language, this paper discusses methodological advances which grew out of concern with American Indian languages, among others, and hence seems editorially appropriate for IJAL—especially since an American Indian language (Delaware) is cited by way of theoretical comparison. C.F.V.]

The part of this paper that deals with the covert morphemes of the Yoruba verb was read before the December 1950 meeting of the Linguistic Society of America at Chicago. I am grateful to William W. Elmendorf, Norman A. McQuown, and W. F. Leopold for a number of useful suggestions arising out of reading of earlier drafts of the paper. My thanks go to Melville J. Herskovits and the Carnegie Corporation for their generous support of my work on Yoruba, and to N. A. Adibi, on whose speech the Yoruba analysis is based.

[1] Z. S. Harris, Structural Restatements II, IJAL 13.3.176.

[2] C. F. Voegelin, Delaware, an Eastern Algonquian Language, in Hoijer and others, Linguistic Structures of Native America 130–57.

[3] Harris, op. cit., fn. 7.

[4] Yoruba is a Kwa language of the Niger-Congo family (cf. J. H. Greenberg's continuing series of papers on Studies in African Linguistic Classification, SJA 5.1 ff.) spoken in roughly the southwestern third of Nigeria. The variety referred to here is that of N. A. Adibi, a native of Ogbomosho, which is approximately at the center of Yoruba-speaking territory.

[5] The phonemes of Yoruba are: /kp t k b d g gb m n ŋ s š f h l r y w j (affricate), i e ɛ a ɔ o u/, length/:/ nasalization /◌̃/, pitch phonemes /1/ low /2/ mid /3/ high /4/ low rising /5/ mid rising /6/ high falling /7/ mid falling. Numbers indicating tone are subjoined after the vowel with which they are coincident. Vowels include /m n ŋ/.

2. The concern of this paper is with the morphemes that precede the verb stem; since they are almost all bound forms, we may call them prefixes. Any sequence of morphemes beginning with one of a restricted number of portmanteaux (indicating person-number-status) and ending with a verb stem is defined as a VERB FORM. It is convenient to consider any verb form in terms of seven possible positions, which may either be occupied by an overt morph or by zero. The first of these positions is that occupied by one of the person-number-status portmanteaux, the seventh is that occupied by the verb stem. The second position may be occupied by /ko$_1$/ (negative) or by zero (non-negative). The third position may be occupied by /ba$_2$/ (conditional), /le:$_7$/ (potential) or /a$_2$/ (habitual), or zero (indicative). /ki:$_4$/, a portmanteau carrying the morphs /ko$_1$/ and /a$_2$/ (negative, habitual), occurring after what precedes /ko$_1$/ and before what follows /a$_2$/ may be regarded as occupying position two or position three; either solution is arbitrary. Similarly, portmanteaux for person-number-status AND habitual mode, as follows:

$$\left.\begin{matrix}\varepsilon_2\\ o_2\\ a_2\end{matrix}\right\}+a_2>\left\{\begin{matrix}\varepsilon_1\\ o_1\\ a_1\end{matrix}\right.$$

Position four is occupied by /yo$_5$/ (future), /ti$_2$/ (past) and zero (present, i.e. non-past, non-future). Position five may be occupied by /ni$_3$/ (continuative) or zero, and position six by /ma:$_7$/ (repetitive), or zero. When both positions five and six are occupied by zero, the form is punctual (non-continuative, non-repetitive).

Thus it may be seen that the Yoruba verb is inflected for person, and number-status, expressed by portmanteaux in position one, negation (or lack of it) in position two, mode in position three, tense in position four and aspect in positions five and six. Two positions are necessary, since continuative and repetitive aspects are not mutually exclusive: /ŋ$_2$ko$_1$ni$_3$ma$_7$:lɔ$_2$/ *I won't go* (I won't continue the repetition of going). In each case, there seem to be "zeroed out" what are probably the most frequently used; that is, affirmation, indicative mode, present tense and punctual aspect are simply lack of negation, lack of conditional, potential, or habitual mode, lack of past or future tense, lack of continuative or repetitive aspect. The scheme for the arrangement of morphemes is thus: 1. Person-number-status, 2. Negation, 3. Mode, 4. Tense, 5. Aspect, 6. Aspect, 7. Stem.

3. Morphophonemics subsumes every phase of the phonemic shape of morphemes: the typical shapes of alternants; the types of alternation; and the various environmental factors (phonological and grammatical) which elicit one alternant or another of those morphemes which appear in more than one shape.[6] Person and number-status portmanteaux now follow.

Position 1. *First person singular*; *Short form*: /ŋ$_2$/ before /Y,k/, /mo$_2$/ before any other consonant, /m/ before vowel; *Long form*: /e$_1$mi$_5$/. *Second person, singular-junior Short form*: /o$_2$/; *Long form*: /i$_1$wɔ$_5$/. *Second person, plural-senior* /ɛ$_2$/; *Long form*: /ɛ$_1$yi$_5$/. *Third person, singular-junior Short form*: /o$_3$/ before CV$_2$; elsewhere, *Long form*: /ọ$_4$:/. *Third person, plural-senior Long form*: /ẉọ$_5$/. *First person plural Short form*: /a$_2$/; *Long form* /a$_1$wa$_5$/. 1. *5* is /2/ before V$_2$ or CV$_5$, e.g. /e$_1$mi$_2$yo$_5$ma$_2$:lɔ$_2$/ *I will go many times*, /5/ elsewhere. 2. *4* is /2/ before V$_2$ or CV$_5$, e.g., /o$_2$:yo$_5$ma$_2$:lɔ$_2$/ *he'll go many times* and /3/ before V$_3$, e.g. /ọ$_3$:n$_3$lɔ$_2$/ *he is going*, /4/ elsewhere.

Position 2: /ko$_1$/ (negation); /ki:$_4$/ (portmanteau for /ko$_1$/ (negative) and /a$_2$/ (habitual)); /o$_2$/ portmanteau for /o$_2$/ *Second person singular-junior* and /a$_2$/ (habitual); /ɛ$_1$/ (portmanteau for /e/$_2$) *Second person plural-senior* and /a$_2$/ (habitual) /a$_1$/ portmanteau for /a$_2$/ *First person, plural* and /a$_2$/ (habitual).

[6] C. F. Hockett, Peiping Morphophonemics, Lg. 26.1.63–85 (1950).

Position 3: /ba$_2$/ (conditional); /le:$_7$/ (potential); /a$_2$/ (habitual).

Position 4: /Yo$_5$/ (future) (Y is ※ after initial /ɛ o a ŋ/, /y/ elsewhere); /ti$_2$/ (past).

Position 5: /ni$_3$/ (continuative) before /ma:$_7$/, /n$_3$/ when position 6 is empty.

Position 6: (repetitive) /ma:$_2$/ when a rising or falling tone contour precedes anywhere in the verb; /ma:$_7$/ elsewhere.

4. There is at least one methodological problem which is raised by this discussion of Yoruba verb forms. That problem relates to what I have called above *positive*, *indicative*, *present*, and *punctual*. These are, of course, respectively, absence of negation, absence of conditional, potential and habitual, absence of past or future, and absence of continuative and repetitive. There are, I think, three possible solutions (and perhaps some others).

The first is indicated by the linguist who objects: 'In proposing these terms, you are simply carrying over categories from languages where they do have significance. Since there is no overt expression of any of these (semantic) categories, they simply do not exist in Yoruba. You are opening a Pandora's box of zero morphemes, and will therefore be forced to show that all manner of categories which find overt expression in other languages are represented by zero in Yoruba.'

The second solution involves recognition of the fact that, while *indicative* etc. are not overt in Yoruba, the names are handy referential devices, since it manifestly is easier to refer to a form as indicative than as non-conditional, non-potential, non-habitual. The morphemic assignment would involve a statement such as 'All verb stems are inherently positive, indicative, present and punctual unless modified by inflection.'[7]

[7] I am hesitant to adopt this solution, in view of the relative paucity of my Yoruba material, since it might well be that further investigation would reveal unmodified verb stems that were not inherently positive, indicative, present and punctual.

The third solution (the one tentatively adopted here in presenting the material) is to recognize not only zero morphs, but zero (or better COVERT) morphemes, and involves recognition of the fact that LACUNAE in a PATTERN are as important as the overt parts of the pattern. Hitherto it has been generally accepted procedure to set up a zero morph, but only when there were (one or more) other, OVERT morphs with which it could be grouped into a single morpheme. However, *positive*, *indicative*, *present* and *punctual* are, as far as my material goes, nowhere overt in Yoruba. There are thus no overt morphs with which we could group, say, *indicative*. *Indicative*, if it has any morphemic status at all, is a covert morpheme (defined as absence of all of the three overt morphs that may occur in that position), consisting of one morph of zero phonemic shape. This does not involve indiscriminate use of covert morphemes, since for each position there can be one and only one such morpheme, defined as absence of the other (overt) morphemes that may occur there. If we made an analysis of the total environment of such morphemes as those indicating *future* and *past*, we would find that a formal definition of their meanings could be devised from the content of the total environment. For instance, the morpheme for *future* would be frequently accompanied by such forms as those for *tomorrow*, *three years from now*, and the morpheme for *past* would be accompanied by such forms as those for *yesterday*, *two years ago*, etc. Similarly, the absence of these morphs (the covert morpheme *present*) would be accompanied by such forms as those for *today*, *right now*, etc. Covert morphemes, then, could very likely be defined formally in much the same way as overt morphemes. Like the conventional zero morph, which is part of a larger class (a morpheme) which has other members of overt shape, the covert morpheme is part

of a larger class of forms, a morpheme class,[8] which also possesses members of overt shape. That is, it may be argued that the absence of the morphemes for *future* and *past* is just as significant as the absence of the morphs of plural in English SHEEP, but on a different level of analysis. Each morpheme class could have, of course, only ONE covert morpheme, just as each morpheme may have only ONE morph of zero phonemic shape.

[8] Cf. R. S. Wells, Immediate Constituents, Lg. 23.2.81 (1947).

The case of the covert morphemes of the Yoruba verb is clearly different in kind from the situation requiring Harris' 'zero morpheme', which is solved by a (perfectly legitimate) juggling of the environment, very rightly compared by him to the analysis of phonological juncture. I should rather propose the term MORPHEMIC JUNCTURE for use where he utilizes 'zero morpheme' and COVERT (or zero) MORPHEME for the non-overt member of a positionally restricted morpheme class.

KLEINSCHMIDT CENTENNIAL IV: ALEUT DEMONSTRATIVES AND THE ALEUT-ESKIMO RELATIONSHIP[1]

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1. The relationship problem
2. Number, case and person markers
3. Morphology of demonstratives
4. Demonstrative stems
5. System of demonstratives
6. Sound correspondences
7. Conclusion

1. The comparison of Aleut and Eskimo was initiated in 1819 when the famous Danish linguist Rasmus Rask listened to Aleut speech in St. Petersburg and compared it to Greenlandic. His notes, however, were not published and the subject not much more than touched upon before the

[1] The writer is indebted to the American Philosophical Society for a grant from the Penrose Fund which made possible a field trip to Atka in the summer 1950, and also to the Graduate School of Indiana University for microfilms of Jochelson's Aleut and Bogaraz' Asiatic Eskimo manuscript materials and of Veniaminov's Aleut grammar and other books in the New York Public Library. While Visiting Professor at Indiana University, the author encountered—and adopted for this paper—the morphological index usage of assigning numbers to all morphemes, thereby being able to cite distributions by means of such index numbers.

Abbreviations and sources now follow.

A e. = Eastern Aleut of the Fox Islands (Unalaska, Umnak). V = I. VENIAMINOV, Opyt grammatiki aleutsko-lis'yevskogo yazyka, St. Petersburg 1846, and English translation by R. H. Geoghegan, The Aleut Language, United States Department of the Interior, 1944. J. = W.I. JOCHELSON 1912 : Zametki o foneticheskikh i strukturnykh osnovakh aleutskogo yazyka, Izv. Akad. Nauk VI, 6; 1919 : Aleutski yazyk v osveshchenii gramatiki Veniaminova, ibid. VI, 13; 1934 : Unanganski (Aleutski) yazyk, Yazyki i pis'mennost' narodov severa, III p. 129–148; manuscripts.

A c. = Central Aleut of the Andreanof Islands (Atka). Writer's field notes.

A w. = Western Aleut of the Near Islands (Attu). Jochelson, manuscripts.

E a. = Asiatic Eskimo. W. G. BOGORAS, The Eskimo of Siberia, Publ. of the Jesup North Pacific Expedition Vol. VIII, 3, New York 1913; Yuitski (aziatsko-eskimosski) yazyk, Yazyki i pis'mennost' narodov severa, III p. 105–128; manuscripts. D. JENNESS 1928 : Comparative Vocabulary of the Western Eskimo Dialects, Report of the Canadian Arctic Expedition 1913–18, Vol. XV, Part A.

E sw. = Southwest Alaska Eskimo. B. = Francis BARNUM, Grammatical Fundaments of the Innuit Language etc., Boston 1901. H. = Rev. John HINZ, Grammar and Vocabulary of the Eskimo Language etc., Bethlehem 1944. Nunivak after Jenness 1928.

E nw. = North Alaska Eskimo, W = Wales, B = Barrow, and M = Mackenzie river delta. D. JENNESS 1924 : Myths and Traditions from Northern Alaska, etc., Report etc., Vol. XIII, Part A; Jenness 1928. For M also Knud RASMUSSEN, The Mackenzie Eskimos, ed. by H. Ostermann, Report of the Fifth Thule Expedition 1921–24, Vol. X. No. 2. Copenhagen 1942.

E e. = Eastern Eskimo, C = Coronation Gulf, Copper Eskimo, N = Netsilik Eskimo, I = Iglulik Eskimo, G = West Greenland and A = Ammassalik (East Greenland). For C Jenness 1928 and Knud RASMUSSEN, Intellectual Culture of the Copper Eskimos, Report etc. Vol. IX, 1932. For N and I Knud Rasmussen, The Netsilik Eskimos, Report etc. Vol. VIII, 1931, and Iglulik and Caribou Eskimo Texts, Report etc. Vol. VII. No. 3, 1930. For G William THALBITZER, Eskimo, in BAE-B 40.1, 1911. SCHULTZ-LORENTZEN, A Grammar of the West Greenland Language, Meddelelser om Grønland 129.3, 1945, and Dictionary of the West Greenland Eskimo Language, ibid. 69, 1927. For A William Thalbitzer, The Ammassalik Eskimo II, 3, Meddelelser om Grønland 60.2, 1923.

The sources could be sampled and summarized only. The notation has been brought closer to that of Morris Swadesh in VFPA 6, p. 30 f., while the terminology is adopted from Thalbitzer with minor changes. For the phonemics, cp. section **6**.

eminent Eskimologist William Thalbitzer did it a century later.[2] Thalbitzer's paper is in fact so far the only serious attempt to prove the historical relationship of Eskimo and Aleut. It seems to have convinced most of the leading Americanists, but later on Thalbitzer himself apparently has changed his position. In 1941 he writes that 'the resemblance between Eskimo and Aleut is rather superficial, and the idea of an original relationship does not appear to be confirmed on closer study';[3] and he says in 1945 that 'Eskimo shows peculiar affinities both with Aleutian on the islands and perhaps with Kerek on the coast between the Chukchi peninsula and Kamchatka.'[4]

The Aleut materials Thalbitzer had at his disposal were rather defective, especially in structural respects; they included only a very small part of Jochelson's important work. Aleut is still far from being thoroughly investigated; it may therefore be worth while to start reexamining the problem now.

2. Problems of historical relationship should, if possible, be discussed first in terms of the grammatical elements which make up the basic structural features of the languages compared. Therefore, we will start out with the inflectional suffixes which in the Aleut noun and verb-like forms follow the derivation and tense suffixes or the bare stem, and reexamine them briefly in the light of L. L. Hammerich's comparative treatment of the corresponding Eskimo suffixes.[5] For reference they are here numbered by decades. Provenience of forms cited is given by letter abbreviations, as A for Aleut, E for Eskimo (fn. 1).

110. NUMBER. In predicative and similar syntactical position reference to third person actor may seemingly be included, but otherwise there is no reference to person.

111. A *-q > e.V. -q, J., c., w. -x̣, ~ ϕ. E *-q ~ ϕ (~ -k). *Singular*. The alternant *-q, which occurs with all vowel stems in A, with many in E, never follows a case or person suffix, marks absolutive case in final position, but may in E, at least partly, precede 180 and 122 +170, 180.

112. A *-k > e., c., w. -x ~ -k(i)-. E *-k, *-k-. *Dual*.

113. A *-t > c. -s, e., w. -n ~ -n(i)- +171 ~ -t- +172, 174. E *-t, *-t-. *Plural*. 112–113 may follow 130, 140 and precede 170 and 122 +170, − 112–113 + 180 and in E also 112 + 122 +180.[6]

120. RELATIVE CASE, i.e. in noun-like forms attribute or actor (referred to in head, resp. action word by 130) and in verb-like forms dependent action—if not bound to certain tense or, in E, goal suffixes.

121. A -n. E *-n. May follow 130.

122. A -m. E *-m. May precede 170, 180 and then also follow 112, but marks in final position also singular—in A attributes, however, not specifically.[7]

130. REFERENCE TO THIRD PERSON possessor/actor. In verb-like absolutive forms in predicative and similar syntactical position reference to third person goal is included if, in E, a 150 does not follow.

[2] William THALBITZER, The Aleutian Language Compared with Greenlandic, IJAL II, 1921, pp. 40 ff. (in Danish in Oversigt over det Kgl. Danske Videnskabernes Selskabs Forh. 1916. No. 3) with bibliography. Older works quoted in this paper are C. C. UHLENBECK 1905 : Uralische Anklänge in den Eskimosprachen, ZDMG 59, pp. 757–65, and 1907 : Ontwerp van eene vergelijkende vormleer der Eskimotalen, Amsterdam. Comparisons already proposed by Rask, Uhlenbeck or Thalbitzer are indicated as such, but no discussion could be undertaken in cases of different opinion.

[3] The Ammassalik Eskimo II, 3.2, p. 575.

[4] Uhlenbeck's Eskimo-Indoeuropean Hypothesis, Travaux du Cercle Linguistique de Copenhague Vol. I, p. 67. Roman Jakobson, AA Vol. 44, No. 4, 1942, p. 604 footnote, compares Aleut and Gilyak morphemes, but does not mention Eskimo.

[5] Personalendungen und Verbalsystem im Eskimoischen, Det Kgl. Danske Vid. Selskab, Hist.-filol. Meddelelser, XXIII, 2. Copenhagen 1936. Here partly restated.

[6] For A-E 110 see Rask-Thalbitzer 1921, pp. 46, 52, Uhlenbeck 1905, p. 759, and 1907, p. 12.

[7] Rask-Thalbitzer 1921, p. 46, Uhlenbeck 1907, p. 13.

131. A -a, -a- after consonant ∼-:, -ya- after vowel. E *-a, *-a- (∼ -ŋa, -ŋa-). *Singular* possessed/goal and, in A, singular possessor/actor except that, as in E, 131 may in heads also refer to an attribute in dual or plural.

132. A -ki-. E *-k, *-k- (like 112). *Dual* possessed/goal and/or, in A, possessor/actor with no plural involved.

133. A -i- ∼ -ŋi-. E *-i, *-i- (∼ -ŋi, -ŋi-). *Plural* possessed/goal and/or, in A, possessor/actor.

In the absolutive case 110 follow, in A fusing with 130 : 131 +111 (ϕ), 132 +112, 133 +113, in E marking the number of possessor/actor, dialectally with some fusion. E.g. A c. ʟa-: *his son*, ʟa-kix *his two sons, their son* (cp. hi:kux ʟa-: *the son of those two*), *their two sons*, E resp. *-a, *-k, *-a-k, *-ki-k. A c. su-ku-: *he took it*, su-ku-ŋis *he took them, they took it, they took them*, E G resp. tigu-va-a, -i, -a-t, -i-t. In the relative case 121 follows 130, in E for singular possessor/actor only. Hammerich's *-aknik, *-kknik, *-iknik for dual and *-ata, *-(k)kəta, *-ita for plural possessor/actor perhaps reflect an older structure 130 + 121 + 110. We state two conditions: if intrusion of 112 -k- (frequent in the dialects and in these forms supported by the analogy of the absolutive forms) may be assumed for the dual forms; and if assimilation of the later non-existant cluster *-n-t > -t may be assumed for the plural forms.

140. Third person goal in appositional[8] and relative verb forms and, in E, in interrogative and imperative-optative.

141. A -ka (modern e. + -n = 121 ?), -ka-. E *-ku (∼ sw. -u/-yu, e. -uk/-yuk). *Singular*.

142. A -ki-. E *-ki, *-ki-. *Non-singular*. Followed by 112 *dual* and, except in E sw., by 113 *plural*, but otherwise always final in E.

In the appositional forms there seems originally to have been no actor marker.[9] In the relative forms 140 follow the actor markers 170, 180 and 130 in E, but precede them in A e., w. (c. not attested).[10]

150. First, second and fourth, i.e. recurrent third, person actor/goal.[11] E has some special suffixes, always final: 151 *-ŋa *I, me*, 152 *-tin/*-kin (< *-tkin ?) *you* (sg.), 153 *-ku-k, -t *we, us* (du., pl.), the rest being like 170, 180. A has for goal independent personal pronouns: 151 tiŋ *I, me*, 152 txin, w. > tin *you* (sg.), *himself*, 153 e. tuman, c. timas *we, us*, 154 txiðix, w. tiyix[12] *you two, themselves* (e. du.), 155 e. txici, c. txicix, w. tici *you all* (modern e. also *themselves*), 156 e. txiðin *themselves*. They all contain 170, 180, the stem being t(i/u)- ∼ tx(i)-.[13] As first and second person actor markers 151, 152, 154, 155 follow in close knit phrases forms with otherwise contextually marked third person singular actor.[14] E.g.- ku- near and -na- remote tense + 111 *-q +151 > e. -qiŋ, c., w. -q,[15] + 152 > e. -χtxin, c. -χt, w. -t,[15] + 155 > e. -χtxici, c. -χticix, w. -tici. -lix, c. -l appositional + 151 > e. -l(i)tiŋ, c. -tiŋ[16] + 140 + 152 > c. -l-ka-t, negative -laka-n-ka-t. In the remote tense the negative particle e. ulux, c. ulax, w. ul precedes 150, but follows 170, 180, e.g. e. -na-γ-ul-tiŋ *I did not . . .*, but -qa-ŋ-ulux *I did not . . . it*. 113 *-t marks contextually both third person plural and first person non-singular actor.

Hammerich compares E 152 *-tkin to

[8] See below 6.9, no. 98.

[9] Of the E dialects only e. I, G have it, see Hammerich pp. 68 f. For A cp. 150.

[10] Thalbitzer 1921, p. 54, compared E 140 to A 130.

[11] In E the semantic distribution is syntactically determined in the appositional, elsewhere *actor* when there is not, *goal* when there is another person suffix, including o in certain interrogative and imperative-optative forms.

[12] In A w. spirant in contact with stop > o and ð > y as usual.

[13] Cp. Uhlenbeck 1905, p. 761, and 1907, p. 51.

[14] Cp. Jochelson 1912, p. 1038, and 1934, p. 139.

[15] In A c., w. stop plus homorganic nasal > stop in final syllable.

[16] In A c., w. -lt- > -t-.

A 152 txin.[17] If this is right the special actor/goal markers may perhaps have been independent pronouns in E too.[18]

160. IMPERATIVE second person singular actor. A e., c. -ða, w. -ya, with stem or suffix final -t- e., w. J. -ca:, c. -ca-ða. For dual and plural 182, 183. E has for singular sw., nw. -n, nw.- -t (173 ?), e. —t, sw. ϕ, sw., nw., e. -na (211 ?), for dual and plural 182, 183, in e. following - -t.

170. POSSESSOR/ACTOR SINGULAR first, second and fourth person. In verb-like absolutive forms in predicative and similar syntactical position, reference to third person goal is included. Number of possessed/goal is marked by preceding 110. 111 has the alternant ϕ, except in E before 122 + 170 where 113 does not occur.

171. A -ŋ *my, I.* 112 + 171 e. -kiŋ, c., w. -k,[16] 113 + 171 -niŋ; 122 + 171 -miŋ only in 190 and verbal forms, elsewhere relative like absolutive. E has *-ka (*-k-ka, *-t-ka) ~ 122 + 171 *-m-a[19] (*-k-m-a, *-m-a), but cp. 151.[20]

172. A -(x)in /-:n, E *-(i)n *your, you,* absolutive alternant. 112 + 172 AE -kin, 113 + 172 A e. -txin, c., w. -t,[15] E *-tin.

173. A c. -is, e. -in, E *-'t (< *-kit) *your, you,* relative alternant.[21] 122 + 173 A c. -mis, e. -min, E *-pkit > *-pit, 112 + 122 + 173 A c. -kimis, E *-kpit (113 + in A c. like 172).[22]

174. A -(x)in /-:n (like 172), E *-ni *his own, himself.* 112 + 174 E *-kni, 113 + 174 E ?*-tni > *-ni (A like 172).

175. A -:m, E *-mi = 122 + 174. 112 + 175 A c. -ki:m, E *-kmi.

180. POSSESSOR/ACTOR NON - SINGULAR first, second and fourth person. Like 170, but in A no preceding 110 and in E nw., e. only 111 *-q- (or ϕ) and 112.

181. A c. -mas *our, we,* absolutive and relative, A e. -man only in 153. E has du. *-puk, pl. *-put (Hammerich; sw. H. -wuk, -wut after vowel, -puk, -put after consonant) ~ 122 + 181 *-mnuk, *-pta.[19] A -s, E *-t, *-t- seems to be 113, and E *-k 112; cp. 150.

182. A e., c. -ðix, w. -yix, E *-tik (Hammerich; sw. H. -sik after vowel, -tik after consonant) *your, you two.* 122 + 182 A e., c. -mðix, E *-ptik.

183. A e., w. -ci, c. -cix, E *-ci *your, you.*[23] 122 + 183 A e. -mci, c. -mcix, E *-pci.

184. A e., c. -ðix, E *-tik (Hammerich; sw. H. -sik after vowel, -tik after consonant) *their own, themselves* (A e. and E sw. dual only, like 182).

185. A e. V., c. -max, E e. *-mik (sw. *-miknik) = 122 + 184 (later A e. 122 + 182 instead).

186. A e. V. -ðin (cp. 184 and 112, 113), E sw. -ziŋ/-tiŋ *their own, themselves* (later A e. 183 instead).

187. A e. V. -maŋ, E sw. -miŋ = 122 + 186 (later A e. -m-ðin and 122 + 183 instead).

190. LOCAL CASES occur in A in a restricted number of location words (postpositions) together with 130, 170, 180 (but 132, 133 instead of 181). Morphologically they go with 120, but differ syntactically. In E, on the contrary, local cases, like 140, 150, are always final and may follow 112 directly and fuse with 113 and 122.[24]

191. A 130 + -n ~ -m- + 170, 180 *locative* = 120 relative, but cp. E *-ni, *-mi, 291 and phonetically 172, 174, 175.

[17] o.c. p. 172, hesitatingly.

[18] The actual independent pronouns in E are for second person il- + 122 + 172, 182-3, cp. 6.1 no. 33 and Hammerich §89, and for first person 4. no. 3 + 201 + 150 in nw., e., but sw. singular also + -i (231?) ± 151, du.-pl. waŋkuk, waŋkuta, a. wankuta (cp. 212?), cp. Bogoraz 1934, §27, and Hammerich §147.

[19] Also, without 122, actor in interrogative and imperative forms and actor/goal in appositional.

[20] Thalbitzer 1921, pp. 52, 54.

[21] E also actor in interrogative forms, cp. 160.

[22] Cp. Uhlenbeck 1905, p. 762, and Thalbitzer 1921, p. 54.

[23] Uhlenbeck 1905, p. 764, and—also for 182—Thalbitzer 1921, p. 54.

[24] Cp. Uhlenbeck 1907, p. 15.

E.g. A e., c. il-a-n *in it, at it* etc., E ilu-a-ni *in its interior, within it*, A c. iqya-m nag-a-n *in the interior of, inside the kayak* (absol. iqyam nag-a), nag-mi-ŋ *inside by me, within me* (cp. E G naa-q, pl. naṣṣa-t *belly* etc.). A e. imin, c. imis *to you* etc., but irregular e. nuŋ, c. ŋus *to me*; ikin *to them, us two*, but ŋa:n *to him*, ŋi:n *to them, us* ~ -a:n, -i:n, e.g. c. aniqðu-:m-a:n *to his own child*.

192. A 130 + -:-n ~ e. -ki-m- + 170, 180 *ablative*, e.g. e. ila:n *from him*, ili:n *from them*, ilkimiŋ, c. analogical ilami:ŋ, w. ilumikaŋ *from me*. Perhaps < *-γən ~ *-kən-, cp. 292. E *-n/min (sw. = 195), e. -n/mit may be influenced by 191, 195.

193. E -kun, e. -kut *prosecutive*.

194. E -n/mun, e. -n/mut *allative*.

195. E -n/mik *instrumental*.

196. E -tun, e. -tut *equative* may follow other 190 and is apart.

The restricted occurrence of local cases in A is very possibly secondary, but it is too early to decide whether the parallelism between this case of structural difference and the cases 140 and 150 is accidental or not.

3. The demonstratives and in part the interrogatives (listed in **4**) are characterized by particular sets of suffixes and suffix alternants. The E stems are monosyllabic and end, at least before some suffixes, in a consonant. The A stems are for the most part dissyllabic, ending in -a- or -u-, but historically at least these vowels seem to be suffixes (200). Some A demonstratives are attested as consonant stems in composition with a following aŋa- *side, half* or haða- *direction*, e.g. no. 13 ulam (h)ak-aŋan *up under the ceiling* (ula- *house*), no. 18 atχa(m) qiγ-aŋa-: *east side of Atka*, no. 20 qaxhaða-: *east direction*, no. 23 sak-aðan aγalu-ŋis *front teeth*, cp., with 122 in the attribute, alaγu-m aŋan *on the sea*, cuγu-m haða: *north direction* and the location word ili-m haðan (stem il-) *inside by the door* (in the direction of the interior). Also the -a- of some stems is or may be missing before certain suffixes (before 212 no. 12, 16 -a- ~ ϕ; before 291 no 2 c., w. ϕ, no. 12, 15 e. -a- ~ ϕ; before 305 no. 13, 15 e., c. ϕ).

This type of stem composition, which is apparently unique in A, may be compared with the E anaphoric 'prefix' (**4**, 25) which seems to be an originally independent stem, but occurs only before demonstratives.

200. A stem vowels indicating ANGULAR RELATION when in contrast, i.e. suffixed to the stem pairs in -ik- : -ak-.

201. -a *straight, right* (up, in front etc.).

202. -u *obliquely*. The stems 3 wa- ~ γu-, 15 hawa- ~ haγu- (and 20.2 ?) perhaps contain this -u- if -w- < -γu- before vowel and not -γu- < -w- before consonant.[25]

The vowel stems occur in sentence or phrase final position with anaphoric or weakly deictic value, e.g. A c. tayakuŋ wa *I bought it* (scil. the thing in question which I am holding), ki:n hiŋa *who is that?*, . . . mal haγumakus (15 + 306 +) hawa *that's why they do that*, A e. J. ayaγacxisaχ qaku *the beautiful woman sitting in there*, wakux (3 + 212 + 112) anakin wa *these parents here of his*, cp. 230.

To 201 cp. E -a *deictic* ('interjectional'), e.g. sw. B. wani (3 + 201 + 291) wa *see, here it is*, G—with the usual doubling of the final spirant in deictic forms without 'prefix'—uwwa ~ ugga *there it is*, awwa *there in the north*, but kina-una (3 + 211) *who is it?*

After the stems otherwise in -ak- E sw., nw. and in no. 19 e. C, but apparently not the more eastern dialects, have an -m- without any obvious distinctive value, -akm- contrasting with -am-, -aγ- and/or -aw-.

210. PRONOMINAL NUMBER.

211. A -n, E -na *singular* absolutive.

[25] w occurs in A e. and c. only; in w. > m in **4**. no. 3 and mayγi-, e., c. wayγi- *mussel*, maxta-, e. waxta- *pity*, hamaγ-, c. hawaγ-, e. ~ haγuγ-*tow*, but > β in no. 9 and aβayaχ, e. awayaχ *owl*, qaβa-, e., c. qawa- *sea lion*, cp. **6.8**.

212. -ku- *non-singular*, A and E sw. + 112, 113, E, nw., e. + -a (G as relative) + nw. 112, ϕ, but stem 27 + 212 + 112, 113 also in E nw., e.[26]

In A 200 precede, in E the consonantic stem with the following assimilations: -k-n- > nw. -kn- or -ŋn-, e. -ŋn- or, G always, -ŋŋ-. -γ-n- > partly nw., e. -mn-, G -ŋŋ-. -m-n- > e. -mn-, -pn-, -wn-, G -nn-. -m-k- > nw., e. -pk-, c. also -wk-, G -kk-. -wk-, -γ-k- > G -kk- (sw. non-phonemic unvoicing only). -n-k- > G -kk-. No. 3 is sw., nw., e. u-na, -ku(-), no. 2 man-na, ma-ku(-) (nw. ∼ mat-ku-). -km- + 210 > a., sw. -kum- + or, also nw., -kim- + (before vowel > nw. -γm- or, also e. C, -ŋm-). In A no. 12, 16, when no 200, -ŋ-k-, -m-k- > -:k-.

220. PRONOMINAL RELATIVE singular.

221. A 200 + -n, w. ∼ -: < 131 + 121?

222. E a., sw. -u- + 122, nw., e. -u- (by 2, 3, 21), -yu-/-ṣu- (cp. 131) + 122 + 201.

Forms with 210, 220 may behave syntactically like forms with 110, 120, but are also frequent before, in E also after, noun-like forms in phrases with number and case agreement, while noun-like forms in A seem to combine in attribute + head phrases only.

In E local case suffixes may follow 212 and 222, being in a., sw. like 190, in nw., e. like 290 if not otherwise indicated below (in nw., e. 212 + -n- pl. and 201 after 222 when indicated).

230. DEICTIC, in A goes structurally with 300.

231. A -ya (< -y- + 131 or 201?) ± 132 + 112, 133 + 113, e.g. c. wa-ya LAŋ *this here is my son*, hiŋa-ya-ŋis *see, there they are*. ? + 175 in wa-ya-:m *now*, e. qana-ya-:m, c. -yi-:m *when*, cp. c. hama-LI-:m (16 + 301 +) *long time ago*. E sw. 201 + -i 'strictly impersonal, always in an exclamatory sense, only when the object referred to is in sight.'[27] Cp. also -yu- in sw. qam-yu-q *you in there* etc. and the nw., e. 'vocatives', sg. 222 + -a ∼ -ak, G qaṣ-ṣu-m-a-a etc., pl. G 212 + 111 + 183 ± -aa, qak-ku-γ-si (-aa) etc.

290. LOCAL CASES.

291. A 200 + e. -ŋun, c. -ŋ, w. -ŋu ∼ -ŋ[28] *locative* (like 191 including semantically allative), cp. -ŋu- in 293 and 191 -n; in c. stem 28 + -ŋ ∼ -n. 301 + e., c. -γan < 131 or 201 + 191 ? E 201 + 191 -a-ni.

292. A 200 + e. -:γan (so e. on Atka, J. has -γan), c., w. -:x (w. J. gram. also -γa)[29] *ablative*, 301 + e. -γaγan < 131 + 192 *-γan (*-γən) ? E a., sw. (H. 201 +) -kin, nw., e. stem 28 + -kin, L -kit, elsewhere 201 + *-k(ə)n- + 201 > -aŋŋa.

293. A 200 + e., c. -ŋuðaγan, w. -ŋuyax *prosecutive* (way or direction), cp. -ŋu- in 291, -ða- in e.V. aŋa-ða-miŋ *opposite, before me* (aŋa- *side*) etc., ? 301 + -γan in 291 and e. atmuðaγan *downwards*, qusamuðaγan *upwards*, V. snaŋamuðaγan *aside*, snaŋamuðaγi- *go aside*.[30] E has a., sw. (H. 201 +) -xun, -γun, nw., e. ? 201 + *-γn- + 201 > -uuna.[31]

294. E a., sw. 201 + -wuk, resp. -wut, -wit, nw., e. -uŋ-a *allative*, ? cp. 28 na- + nw. -uŋ ∼ -u (also + 193), e.G -uk *where, where is* (all. nw., e. + 194). 212, 222 + nw., e. -uŋŋa probably influenced by 292, cp. 192, 194.

[26] Cp. e.g. A e., c. kuŋin, w. kuŋ *on them*.

[27] Cp. e.g. A e., c. ma:γan, w. ma:x *he to do*, e., c. naγan, w. ∼ naγa, nax *in it*.

[28] See **6**. no. 67, 47, 42 resp.

[29] To E 193, 293 -kun ∼ -γun is perhaps related the temporal suffix sw. -ku, nw. -γu, W -γun, e. -γu, e.g. in sw. unuaku *tomorrow* (unuaq *morning*), nw. unuaγu, e. unnuaγu *tonight* (unnuaq *night*), cp. + 193 unnuakkut *during the night*; nw., e. aqaγu *tomorrow*, + 131 + -γu(n) aqaγuaγu(n) *the day after tomorrow*, + 193 G aqaγukkut *the day after, the following day*; sw. 3 + 122 + -ku uumiku *next time*, e. G 25 + -γu taṣṣuuγu *in a little while*, + 293 taṣṣuuna *through there*. A qilaγan *tomorrow* (cp. **6.2** no. 48) looks like 131 + 121 or 191, cp. qila-m *in the morning* (122 or cp. E 122 + 191 -mi?), and e. amγ-a:n *by night* (amax *night*) looks like 131 + 192, but c. has amγ-a:x ∼ e. influenced -a:γan so that comparison with E can not be discarded offhand.

[30] Uhlenbeck 1907, p. 42, Thalbitzer 1921, p. 54.

[31] Barnum §361.

(295. 212, 222 + nw., e. -iŋŋa *instrumental*, cp. 292, 294.)

296. E a., sw. -tin *equative*, e.g. wa-tin *thus*, a. ma-tin *now*, maatin *lately, recently*, e. G + 201 > maanna *now* (190 may follow). 212, 222 nw., e. + 201 + 196.

300. Some of the A derivation suffixes occurring typically (but not exclusively) with demonstrative stems may be listed here for reference:

301. e. -li-, c. -ʟi- *just, rather, again.*

302. -:γi-, with location word stems -u:γi- *being.*

303. -:txa- *place, be.*

304. -:ya- *arrive, get to.*

305. -:nu- *approach.*

306. -ma- *too, in turn, act like.*

Other derivation suffixes, including tense suffixes, may then follow; stems 4 and 16 are attested with directly following tense suffixes.

In E some derivation suffixes may follow case suffixes in demonstratives and some other words, e.g. G 294 + :sam-uŋa-innaq *only, just out on the sea*, sam-uŋ-naγ-pu-q *he goes down, seaward*. The usual types of E derivation are closely parallel to the A ones.

4. DEMONSTRATIVE STEMS in A and E.[32]

1. A uk-a- *in here*, in this room or village. E a., sw. uk- a. *here*, close to speaker, sw. *approaching.*

2. A uð-a- *along here*, lying stretched out or lying in general. E has mat- + 210, 222 ~ ma- + 290 ~ nw., e. mayy-/maṣṣ- + 201 (< *mað- ?) *here*, sw. in general, inanimate.

3. A e., c. w-a- ~ γu- + 306, w. ma-[25] *here*, by or close to speaker, + 306 *right now*. E u- + 210, 220 ~ a., sw. w-a-, nw., e. uw- ~ uγγ- + 290 *here, there*, pointed at, a. near or coming to speaker.[33]

4. A um-a- *right behind there*, invisible, near, ± 306 *just, then, thus*. E im- + 201 *thus* as follows, + 210, 220 *that* previously mentioned, *that time.*

5. A ik- + 201 c. *right over there*; + 202 *right there aside*. E ik-[34] *over there*, sw. on the opposite, in front, nw. within view, e. G in the north, A in the south, near.[35]

6. A c. iŋ-a- *right there in front*, + 302 *next* in time. E a., sw. iŋ- ~ a. in- + 292, sw. in + -yuq (231) ~ i-, y-a- + 290 *there*, a. aside, not very far from speaker, sw. on the other side.

7. A ak- + 201 e., c. *over there, way out there*, c. *last* in time; + 202 e., c. *out of the way, back there*, V. *walking far away*. E a., sw. akm- *over there*, sw. hill or stream etc. in between.

8. A e., w. aγ-a- *on the other side*, c. found only in aγ- aŋa-n id. cp. **3**. E a., sw. aγ- *there on the other side.*

9. A e., c. aw-a, w. aβa- *passing there*, c. + 302 *time*; in the materials not quite clearly distinguishable from no. 15. E aw- *over there*, sw. somewhere, passing, H. down south far away, nw. far away out of sight, e. G in the north, A in the south, distant.

10. A am-a- *away out of sight*, certainly attested only + 300 and in c. am-aŋa-n *across, behind*, cp. 16. E am- *over there*, nw. beyond reach; not in G.

11. A hik- + 201 *right up there*; + 202 *right up there aslant* as on bank from beach, V. *walking, standing near*. E pik- *up there*, sw. in plain view, e. C, G in the east, A in the west, near.

12. A hiŋ-a- *there* by you or as just mentioned, + 306 *there, then*. E sw. piŋ- ~ pi- + 201, 290 *back there.*[36]

13. A hak- + 201 *way up there*, directly above, *standing upright there*; + 202 c.

[32] The sources are summarized very briefly only. For A V. and J. are quoted specifically only when differing significantly from the c. materials; the disappearance of initial h- in later A e. and the change ð > y in A w. are not explicitly indicated. For 'prefix' forms see 25.

[33] Thalbitzer 1921, p. 54. Cp. footnote 18.

[34] Jenness 1928 nw. B iŋna, taikna and e. C iŋna (abs.), ikiŋna (rel.) *he yonder* perhaps in part to no. 6.

[35] Cp. Uhlenbeck 1907, p. 45, and Thalbitzer 1921, p. 54.

[36] Possibly trace of the contrast 11 : 12 in nw. M Rasmussen p. 134 pik-, piŋ- + 293 *through here*, scil. by the window, resp. by the roof-hole.

way up there aslant as inland from beach, V. *standing far away*. E a., sw., nw. pakm-, ? nw. M, e. C pak- ~ paγ- (cp. 14) *up there*, sw. on top, nw., e. in the sky.

14. A haγ-a- *up along there*, e.g. clothes line under the ceiling, reindeer herd along the hillside, + 302 *upper* teeth, mustache. E a., sw. paγ- *up there*, a. inland.

15. A e., c. haw-a- ~ haγu- + 306 *dropping, passing there*; *there*, anaphoric, often for pl. corresponding to 12 for sg.; + 306 they *there, thus*, J. e. awa-, w. aβa- + 304 *fall* (pole, person), cp. no. 9. E paw- *up, back there*, inland etc., G in the east, A in the west, distant.

16. A e., c. ham-a- *behind over there*, invisible, far, *there* as previously mentioned or known, ± 306 *there, then, sometimes*. E pam- *back there*, a. behind the speaker, sw. on top, nw. beyond the hills etc., e. N *up there*; not in G.

17. A e., c. qik- + 201 c. *right out there* 'in the corridor', J. by the entrance; + 202 c. *right back in here* as by the wall in the room where the speaker is, V. *sitting in front*.

18. A e. J. qiγ-a- *standing inside by the door*, e., c. + 290, 302 etc. *east*, qiγa-:ði- e. *north*, c. *northeast* (cp. aði- *lip, edge* ?). E has sw. kiyuγ- ~ ki- + 290, nw., e. kiγ- ~ kiw-, G kiγ- sw. *in the rear* of house, *up stream, aft* in boats, H. *there northeast*, nw. *up there* on a shelf or sleeping platform, M *inside*, e. C, I *out there*, N, I *by the house entrance*, G *in the south*, A *in the north*, near.[37]

19. A e., c. qak- + 201 *outside there*, J. in front of the entrance or in the anteroom, + 290 c. *east*; + 202 *in there*, c. in the other room or e.g. when the speaker is out fishing, in the village, J. farthest in front, farthest in the rear of a house. E a., sw., nw. qakm-, e.C qaŋm- *outside there*.

19.2. E qam- *inside there*, nw., e. also *outside there*, when the speaker is outside, resp. inside.

20. A e. qaγ-a- J. *standing in front of the entrance to the house*, + 290 c. *east*; qaγ- + haða- e., w. *northeast*, c. *southeast*, + -aŋa- e.J. *bow end* of kayak.

20.2. A qaw- ~ qaγu- in e.V. kauliangin, kaguliangin (c. qawalaŋis) *Umnak-Unalaska people*.[38] E qaw- sw. *rear, up stream*, nw. *east*, W *north*, e. G *in the south*, A *in the north*, distant.

21. A ukna- *right down there*, c. as on beach from bank, J. below, in the middle. E has kan- ~ kat- + 222 *down there*, a. by the seashore, sw. a little way down, nw. north, e. G west, A east, near.

22. A una- *down along there*, V., J. farther down than 21, + 302 e.J. *lower* (teeth); un-aŋa-n, c. -s* *seasiders*, general name of the Aleuts. E un- *down there*, sw. H. at the coast, nw., e. seaward; a., sw. unγ- *down there*, a. seaward, sw. B. below, H. on the coast.

22.2. E a., sw., nw. uw- ~ sw. uγ- + 210 a., sw. *in front*, forward in boats, sw. *down stream*, nw. M *in the west*.[39]

23. A sak-a- *vertically down there* as on floor from table, *way down there* (opposite no. 13 + 201), *far out there* on the sea, J. also out on the middle of the floor. E a., sw. cakm-, nw. saγm-, M saŋm-; ? e. N + 211 saŋ-na *down there*, nw. B west.

23.2. E a., sw. cam-, nw., e. sam- *down there*, a. in the open, in the sea, sw. straight down, nw. seawards, e. G west, A east, distant.[40]

[37] Cp. E sw. B. kāăn (= ki(y)an) *the rear portion of the* ɪnglŏk (sleeping platform), nw. kiwan, kiwat- *the right wall of a house when entering the door, east side*, e. kuyat- *the side one has on one's left when facing the open sea*, viz. on the west coast: *south*, on the east coast: *north*.

[38] Veniaminov in Hrdlička, The Aleutian and Commander Islands, Philadelphia 1945, p. 21. East of them come the kigigun (c. qiγi:γus : 18+) and, from Unimak to Unga, the kagan taiagungin (= qaγan tayaγuŋin : 20), west of them, on the Four Mountains, akugan or akugun (7 + 202), ibid. For the orientation and organization of the ancient Aleut communal dwellings see o.c. pp. 43 ff.

[39] Cp. E nw. uwan, uwat- *the right wall of a house when inside facing the door, west*. What is nw. M ukiŋna *down there*?

[40] Thalbitzer 1921, p. 54, to A 23.

24. A saδ-a- e., w. *outside* of the house, V. on the road, c. + 291, 301 id.; c. saδaγu- *northwest*. Also, or perhaps properly, a location word : e.J. saδa-: *the sea side of it*, e., c., w. saδan *outside, along the shore, by the wall of it*, c. saδ-u:γi- *outside* (opposite il-u:γi- *inside*), cp. E Nunivak caiŋa, nw. sa:, saγa, sa:ŋa, e. sa:, sa:wa *its front* side, wall.

25. A w. taγa- and tama- are anaphorics corresponding to e., c. 15 and 16, ? cp. e., c. ta:man *then, later*, tata:m *again*, tacim, e. ~ taciŋ, w. taci *still, yet*. Cp. the E anaphoric 'prefix', before vowel, m- and s- : ta- (a. only + 1, 3, sw. + 2, 3) ~ a. taz- + 6; before k- : a. tax-, nw., e. ta- + 21 ~ nw., e. tak- + 18; before q- : nw. tat-, M, e. taq-, C tat- ~ tap-; before p- : nw. tat-, M, e. C tat- ~ taγ-, e. taγ-, G tap-. After ta- stems 3 and 4 + 210, 220 seem to have coalesced in G; and nw. M, e. C, N taina, taiṣuma *this, yon* is probably a variant of ta- + 4 and/or 3, cp. 22 and N, I tain- + 290 *out on the open sea*. E e. taγwa, G ta:wa *then*, nw. M, e. C, N, I taγw-, ta:w- + 290 *there* seems to be ta- + 3. In nw., e. tayya, taṣṣa *there it is, that is enough* etc., G + 290 *there* where you are, the stem seems to be just the 'prefix', < *taγ- ?, cp. na:- ~ naṣṣa-, A naγ- in 191 and no. 2 above. Perhaps this is the stem of the A personal pronouns and E *-tkin *you* in 150 as no. 3 is the stem of the E first person pronouns.

26. A e. niŋ- in V. + 212 nikun *this, so*, + 291 niŋun *here*, + 301 niŋaliγan *exactly here*; J. nawa *thus, there*; V. nama-n, + 212 nakun *that, he, they*, correspond to no. 6, 15, 16 resp. and may contain another 'prefix'. Cp. 28 E na- (?).

The following interrogatives share some morphological features with demonstratives:

27. A sg. abs. rel. ki:n, + 212 du. ki:nku-x, pl. -n, c. -s, E sg. abs. kina, rel. a. kitum, sw., nw., e. kia, + 212 a., sw. kin-, nw. kit-ku-k, -t, e. G kikkut *who*.[41]

28. A qana- + 290 *where*, + 231 *when*, cp. qana:ŋ *how many* and e., c. qa:ta: *where is*, e.V. qa(:)tam-aδan *any-, everywhere*. E has na- + 290 (in part 190), but cp. sw. qaŋavak, nw., e. qaŋa *when* (past), qaqu(-γu) *when, sometime* (future), qanuq *how*, qapsit etc. *how many* and the sw. interrogative particle -qa (written -ka). Perhaps A qa-na- is qa- + na-.

A alqu- *what, do what*, on the contrary, is like E sw. ca- id. an ordinary noun-verb; E nw., e. su- in part follows 27.

5.1. The A demonstratives listed above can be synchronically analyzed in terms of perspective and aspectual contrasts corresponding to the phonemic contrasts between the initial consonants and/or vowels and the final consonants:

To the referent field, no. 1–4 u- ~ ϕ, are opposed, in two distances, near (close vowel) and distant (open vowel), four fields : unbounded level, no. 5–10 i-, a-, and high or general, no. 11–16 hi-, ha-; bounded sectional, no. 17–20 qi-, qa-, and low-angular, no. 21–23(-24) u--, sa-.

Two aspectual states are opposed in all fields: definite or focused (-k-) and indefinite (continuant). In the latter visibility is specified as distinct (illabial continuant), zero (-m-) and changing or indifferent (-w-/-γu-) in the referent and unbounded distant fields. By 200 angular relation to the referent is specified in the definite state of the unbounded and the sectional fields, but fuses with distance in the low-angular field.

Thus, for example, of the stems attested as anaphorics and corresponding to 25–26, no. 12 hiŋ-a- and 15 haw-a-/haγu- would differ markedly from each other and from no. 3 w-a-/γu- only as to distance, and no. 4 um-a- and 16 ham-a-, less specific as to distance, would only have the mark of zero visibility added.

5.2. The system of E sw.—and E a.—seems to be very similar. No. 4 im-, however, is perhaps better taken to the near level field, and the -m- term extends also to the sectional and low fields.

[41] Uhlenbeck 1907, p. 46, Thalbitzer 1921, p. 54.

Toward the east more and more contrasts seem to be lacking. The twelve stems of G, no. 25 not included, could be interpreted in terms of two distances, near-present and distant-absent, in two relative fields on the one hand, deictic (3, 4) and general (2, 19.2), and, on the other hand, four fields oriented in relation to the open sea, right (5, 9) and left (18, 20.2), front (21, 23.2) and back (11, 15).

6. The sound correspondences involved in the A–E comparisons suggested above are simple and recur in other instances, but the subject can not, of course, be fully treated here.

6.1. The VOWEL PHONEMES a, u, i, of A and E, usually correspond one to one. See above passim and e.g. 29 A anɣi- *breath, breathe*, anɣ-aɣi- *life, live*, E nw. aniq-, sw., e. aniɣ-niq *breath*; 30 A aŋu(-)na-, E aŋi- *big*; 31 A alax *two*, E alla *another*;[42] 32 A il-, E ilu- *interior*, see 191; 33 A ila-, E ila *part, companion, relative*;[43] 34 A iɣ-laɣ- *spear*, J. *shaft of throwing weapons*, iɣ- + causative -ni- *put down*, + frequentative -ðɣu- c. *waterfall*, etc., E sw. iɣ-t- *fall down*, nw., e. iɣi-t- *throw away*, a., nw., e. iɣi-maq *foreshaft of harpoon*; 35 A ik(-)la- *firewood*, E sw. ki-, nw. iɣ-, e. iŋ-niq *fire*, e. iki-t- *set fire to*; 36 A c. unɣi(m)sitxa (unɣ- + 122 + *under*), E uniq, sw. unq-, nw. unɣ-, e. G uɣn- *armpit*; 37 A uluɣa-, E Nunivak uluwaq, nw. uluaq, e. uluak ~ ulusṣa- *cheek*.[44]

A u / E i in 4, cp. 38 A uŋuci- *sit*, + -t- *sit down*, E nw., e. ik-si--, iŋi-t- id. etc. and below 58, 66, 77.

A ϕ / E i, sw. ϕ seems to reflect a reduced vowel: 39 A e. V. ɣalɣiq *upper opening in a dwelling, smokehole*, E sw. ɣaliq, nw. iɣaliq, iɣalaq, e. iɣalaa-q ~ iɣalaṣṣa- *window*; 40 A ɣu- *pass between, through*, + -t- V. *bore*, E e. iɣut- *sting* (insect); 41 A li-:ða- *like, resemble*, (cp. 91b), E Nunivak (Hammerich) *lixtoχ*, E nw., e. ili- vuq *behaves so* and so; 42 A e. V sn(-)aŋa-, E sw. sna-, e. sini, sina- *edge, side*; 43 A sla-, E sw. sla, nw., e. sila *outdoors, atmosphere*; 44 A c. sχi- ðuɣ- *drizzle*, E G siqiɣ-, siqi-t- *splash, sprinkle*. See also 63-5, 91-2.—A ϕ / E u, sw. ϕ in 3, cp. 94.—The disappearance of these vowels explains, for most cases in E a., sw. and for some cases at least in A, the occurrence of initial clusters and consonants other than those indicated in **6.2–5.**[45]

The correspondences in medial position are somewhat unclear. A a / E i and u in 185, 187, 192, 292 and 181 perhaps reflect reduced vowels.

Finally i and u do not occur in A except some obviously secondary cases in A w., and -i, E -i, in 183. A ϕ / E -i in 174–5, 191. A -a / E -u in 141 may, however, have been influenced in A by 131. A vowel length : reflects any postvocalic vowel.

6.2. The VELAR and MIDPALATAL STOPS, q and k, correspond one to one initially and medially in 19, 20, 28 and 132, 141–2, 1, 5, 7 and e.g. 45 A qani:x, c. + 113 qani: ɣis *snow*, V. *hail*, E qanik, G + 113 qaniit *falling, snow*;[46] 46 A qaya- *hill, high*, E a. qayi-, sw. qai-, nw., e. qaa- *top, surface*; 47 A qusa-, E quli, qula- *upper part, space above*, cp. also E nw., e. qutsik- *be in high altitudes*; 48 A qila- *morning*, e.J. -qila- near future, E nw., e. + 195 qilamik *quickly, soon*; 49 A kaŋ-, kaŋa- *top* of house etc., *overground part* of plant, E sw. kaŋiq *top* of a plant etc., nw. kaŋiaq *headwaters*, e. kaŋi *landside* etc., kaŋiq *promontory*, kaɣɣi *bunch of flowers in the top of a plant*; 50 A kayu- *muscle, strength*, E nw. kayuaq *biceps*, e. G katsuaq *the inner muscle of the upper arm*; 51 A c. + 113 kuyɣis *loins, reins*, E G kuyak, + 113 kutsat *loin*;[47] 52 A kiŋi- *younger brother* (c. also sister), e. kiŋ- -uɣi- *younger, smaller*, E kiŋu *hinder part*, sw. kiŋuqli-a *the one after him, his younger brother*; 53 A kiɣ-, E kiɣ-, kii- *bite*,

[42] Cp. Rask-Thalbitzer 1921, pp. 46, 49.
[43] Cp. Thalbitzer 1921, p. 52.
[44] Rask-Thalbitzer 1921, pp. 43, 48.
[45] See Hammerich 3 ff.
[46] Rask-Thalbitzer 1921, pp. 43, 45.
[47] Cp. Thalbitzer 1921, p. 51.

A e. kiγ-usi-, E sw. kγ-un, nw., e. kiγ-un, -ut *tooth*;[48] 54 A aki- *price*, E aki- *opposite, equivalent, price*; 55 A tuku- *chief, boss, rich*, E sw. tuku- *rich*, nw. tukku- *host, guest*, e. G tukku-γ- *be generous*. See also 86, 88, 89 and 35, 56; A q- / E k- in 18 may in A have been influenced by 19–20.

In clusters before and after c, s, t and finally A has the spirants corresponding to q and k (see 111, 44 and 112, 182, 184–5, 45). But Veniaminov still heard stops. The c., w. final stops are secondary (see footnote 15).

6.3. The E PREPALATAL affricate c (nw., e. sibilant s) and the E DENTAL stop t correspond to A s, c, t.

Prepalatal sibilant s initially in 23, 24, 42–44 (E sw. c- > s- before consonant) and e.g. 56 A saki:γ- + 113 c. -is *ribs*, E + 113 Nunivak cakiaγit, nw. sakiaγit, e. N sakicat, G sakiṣṣat *chest*, sg. G sakiak *rib*; 57 (?) A sicin, c. siciŋ, E a. stamat, sw. stauman, nw., e. sitamat, B, G sisamat *four*;[49] but apparently affricate in 58 A cuγu- (1) *north*, (2) *sand*, E(1) sw. ciu-, nw., e. siwu-, G suyu- *forepart* of kayak etc., + -γaq *front*,[50] (2) nw., e. siuγaq *sand*;[51] and medially affricate in 183 and 38; dental stop initially in 150, 25, 55 and e.g. 59 A c. taγayu- *salty*, E sw., e. taγa- yu-, G + 113 taγatsut *salt*; 60 A tut- e. *listen*, + -ta- *hear*, c. also *feel, understand*, E nw., e. tusaγ- *hear* etc.,[52] and medially in 61 A ataqan, E sw. atauciq, nw., e. atausiq *one*;[53] 62 A, E -tu- *have a big, many*, e.g. 54 + 62 A aki-tu-, E G aki-su- (-t- > -s- after -i-) *be expensive*.

However, E ti-, -ti- corresponds to A c in 63 A cŋa- *hair of animals*, c. also *human body hair*, E G tiŋi *pubic hair*, tiŋayuk *its* (the reindeer's) *beard*; 64 A cxa- *steal*, E tiγu- *take, seize*, cp. tiγlik- *steal*; 65 A cma- *tail of fish, of whale*, E sw. B. tma, H. tima, nw., e. timi, tima- *body*; 66 A *quciq + 132 > c. qucikix, + 131 > e., c. qucχ-a- *interval, midst*, E sw. qukka- (?), nw., e. qitiq, qitq- *middle, center*. Cp. also 57 and and 67 A at- ~ ac- *lower part* in e. atmuðaγan 293, c. atxul- *lower part of body*, e.J. aci(m)kuγan *on the ground, below*, c. acu:γi-s *lower teeth* etc., E sw. aci-, nw., e. ati-, ata- *lower part*;[54] 68 A -t- ~ -sa-, + 160 -ca, E -t- causative and inchoative suffix, e.g. in 38, 40 and A asχa-t-, E tuqu-t- *kill* (make die); 69 A -usi-, -:si- ~ -:c- + 131, E -ut- *means to*, e.g. in 53, 71, 77, A -:sa-, E -ut- *with, with regard to*; 70 A asa-, E atiq, sw. atχ-, nw., e. atq- *name*.[55]

In word final position c does not occur and -t only in E, -s only in A c. These correspond in 113, 173. Some E dialects and A e., w. have the nasal instead.

6.4. LABIAL STOP occurs initially and medially in E and, reflecting older -m, finally in E e., but in A not at all, except in recent loanwords; in older loanwords Russian p > A m, м or k.

E initial p-corresponds to A h- in 11–16 and e.g. 71 A c. ha:si-, E sw. paŋhun, nw. paγuti-k, e. pauti-k *kayak paddle*; 72 A c. huγ- *case* (pillow case etc.), E nw., e. puu- ~ puγγu- *bag, case*; 73 A huyuγ- *smoke, steam* (from sea, volcano), E sw., nw. puyuq, e. puyu- ~ putsu- *smoke, steam, mist*; 74 A hutaχ *thumb*, E nw., e. putuγuq *big toe*; 75 A hi- + -χta- etc. *say, tell, call*, E pi- *do, get, come, say* etc., and 82, 90. A h is probably an allophone of χ, which seems to correspond to E medial p in 76 A siχi- *break, spoil*, E G sipi- *split, cut to pieces, burst*; 77 A c. uχa:si- *oar, row*, E ipun, iput *oar*, G ipuγ- *row*.

6.5. The NASALS of A and E, ŋ, n, m, correspond one to one in most cases: ŋ in 171, 187, 6, 12, 30, 38, 49, 52, 63, n in 121, 172, 174, 191, 211, 291–2, 22, 27, 29, 36, 42, 45; m in 122, 175, 185, 187, 4, 10,

[48] Thalbitzer 1921, p. 52.
[49] Thalbitzer 1921, p. 46.
[50] For A *north*, E *front* cp. 4. no. 24; the activity of the Aleuts has mainly been directed toward the Bering Sea, see Hrdlička o.c. p. 36.
[51] Thalbitzer 1921, p. 52.
[52] Cp. Thalbitzer 1921, p. 52.
[53] Thalbitzer 1921, p. 49.
[54] Cp. Thalbitzer 1921, p. 44.
[55] Thalbitzer 1921, p. 51.

16, 65. Initially, except for secondary cases, only n and m occur in E. A–E n- in 78 A naγ- *interior*; cp. 191, E nw., e. naa-q ∼ nayya-, naṣṣa- *belly*.

A -m- / E -w- (∼ -p-) in 181 may not be phonetic, but cp. 79 A e. a:max, a:mγ- + 131, c. a:mγ-iχ, w. > a:βiχ, E auk < ?*amk *blood*; 80 A e., c. kamγi-, w. kaβi- *head*, E a. kaxkaq, sw. Nunivak kaχχaχ, nw. kaw-yaq, kawṣaq, e.G kaṣṣiq < *kawγiq *crown of the head*; 81 A tumγa- E Nunivak tuχkaγaa, nw. tuuγaq, e.G tuu- γaaq *tusk*, *ivory*—A also *foreshaft*; 82 A e.V. umxiq, c. humγi-x, E Nunivak puwaq, nw. puwak, e. G pua-k *lung*; 83 A sa:mi- < ? *samk- e.V. *stone knife*, c. *iron*, E sw. cawik *iron*, Nunivak cauwix *a curved knife*, a., nw., e. sawik *knife*—nw. also *iron*.

Voiceless nasal phonemes occur only in A, but may be secondary as perhaps in 83.

6.6 The VELAR and MIDPALATAL SPIRANTS of A and E correspond one to one: -γ- in 59, -γ- in 8, 14, 18, 34, 39, 40, 53, 72 and e.g. in 84 A tuγa- *fist*, *knock*, E G tuγ- *rest*, *strike against*, *fall on*, tuγγaγ- *cut or hack in*; but to A -γ- also E ϕ ∼ -y- ∼ -ṣṣ- (cp. **6.7**), e.g. in 37, 56, 78, 80, 82 and 85 A iγa- *start to fly*, iγa-si- *wing*, E *iyak- > sw. yax-, nw. izak-, isak-, e. isaγ- *stretch out arms or wings*, sw. yakuq, nw. izaγuq isaγuq, e. isaruq *wing*;[56] 86 A qi:γa- *grass* in general, E nw., e. qiyuk, G qiṣuk *wood* as material.

The corresponding voiceless spirants seem to be allophonic in E but phonemic in A at least A c., except when they do not contrast with stops: cp. **6.2** and no. 64. A -γ- ∼ -k- / E -k- in 192, 292 and A -x- ∼ ϕ / E *-k- ∼ ϕ in 172 are so far unique.

6.7. A has both PREPALATAL SPIRANT or semivowel y and a DENTAL SPIRANT ð (w. > y), while E has only y (∼ ṣṣ, ts, ϕ). To A y corresponds E y in 231, 46, 50, 51, 59 and 87 A ayγaγ- *walk*, *walk away*, E sw. ayaγ- *go away*, *travel*, nw. ayak-, e. G ayaγ- *push*, *push away*, A e. ayaγu-, c. ayaχu-, E sw. ayaγu-, nw., e. ayauppiaq *walking stick*.[57] To A postvocalic ð before a corresponds E y in 88 A qiða-, *weep*, *cry*, E G qiṣṣa-siγ- *burst into tears*. 89 A e. V. qiðaya-n (113), E nw. W qizγaq, B qiγiγiq (Jenness' -γ- here < -y-), e. G. qiiq *grey hair*. 90 A huða- *dried fish*, *to dry* (fish), E nw. puya, e. G puyak *dried blubber*. 91 A ða- (< *əða-), E sw. ii, nw., e. iyi, G iṣi, iṣa- *eye*. 91 b A -:ða- *resembling*, *adjoining*, *small*, E sw. -uaq, e. G -uṣaq *which resembles*. To A postvocalic ð before palatal vowel corresponds E s in 92 A ði- (< *əði-) e. V. *soot*, c. + -mi- *to smoke* (fish, skin), E Nunivak (Hammerich) seχ, nw., e. isiq *smoke* (G particularly in the house), *steam*. To A postconsonantic ð corresponds E t in 182, 184 (sw. ∼ postvocalic -sik) and 93 A -ða-, E e.G -taγ- ∼ (postvocalic) -saγ- *be in the habit of*.

A voiceless ʏ is perhaps a secondary phoneme: cp. w in **6.8**. The A voiceless dental spirant is allophonic.

6.8. The E LABIAL SPIRANT w corresponds in 3, 9, 15, 20.2 to the A labio-velar semivowel w (w. > m or β),[25] but as indicated in 202 perhaps through γ. Cp. 94 A e., c. Waχ, Waγ- < ? *uxuaq *smoke* rising from a chimney, pipe etc., E uu-, uuk- *burn*, *boil*, *roast*, *be burnt*; 95 A aγi- *open the mouth*, *spread open* (clam and the like), E sw. awik *half*, sw., nw., e. awik- *divide*, *cut in two*; 96 A uγi-, E sw. ui, nw., e. uwik, G uwi *husband*; 97 A iγaci-, E sw. yua- lu, a., nw., e. iwalu, G uyalu *sinew*. For A cp. also c. (different informants) iw(i)ya:γ- ∼ i:γuya:γ- *bow*, *bow piece of kayak*, ciW(i)ya:ka- ∼ cixuya:ka- *sparrow*, the (i) being probably just a glide.

6.9. A, E LATERAL l in 31-3, 37, 39, 41, 43, 48, but A s / E l (∼ ts) in 47: cp. 98 A e. -lix ∼ -six (after consonant), c., w. -l ∼ -s, -l- ∼ -s- + 140, E -lu(-) appositional; negative A -laka-n(-), E -na-; 99 A -li- ∼ -si- *get*, *make*, *become*, *be occupied*

[56] For E see Hammerich p. 20.

[57] Cp. Thalbitzer 1921, p. 44.

with etc., E sw. -li- *make, become*, -liuγ- *work in, be occupied with*, e. G -liuγ- *make* (-uγ- *repeatedly*), -si- *get, become*.

Voiceless lateral seems to be allophonic in E, but phonemic in A, at least in A c. Cp. 100 A c. qiʟuγ-, E nw., e. qiluk- *bark* (dog, fox).

A c. also has a phonemic contrast, medially, between voiced z and voiceless s, while A e., w. seem to have s only. Good A-E etymologies are still lacking.

6.10. Consonant quantity is phonemic in E, but does not seem to be so in A: cp. e.g. 54 and 55. In E the allophonic voiced ~ voiceless variation in spirants is tied up with the quantity and so also are perhaps some of the twofold A-E correspondences. Stress seems to be non-phonemic in both languages.

7. Structurally Aleut and Eskimo are very similar, although of course there are some differences—but hardly more important ones than those mentioned in 140, 150 and 190. Whole Aleut utterances can be transposed morpheme by morpheme into Eskimo, e.g. A c. aniqð u[1]-m[2] su[3]-ku[4]-:n[5]uqi[6]-ðu[7]-:sa[8]-ðu:ka[9]-laka γ[10]-a[11], E G miiqqa-p tiγu-γin-ni uti-llaγ-ɥk-umaa-ŋŋila-a *the child*[1] (112)[2] *what it* (174)[5] *takes*[3–4] *it* (131)[11] *will*[9] *not*[10] *quickly*[7] *come back*[6] *with* (69)[8] *it*.[58] This fact as such, however, can not be taken as a proof of genetic relationship, at least not at the present stage of comparative structural linguistics. The structural similarity between, say, some Lapp dialects and Norse is not as thorough, but still quite striking. Phonetic and semantic similarity between morphemes as such does not prove genetic relationship either. But when the similar morphemes are those which represent the most significant features of the similar structures, and when the phonetic similarities and dissimilarities are systematic, then no better explanation has so far been adduced than the assumption of genetic relationship.

Although this essay is designed as an exploratory study, there can be little doubt that Aleut and Eskimo are closely related languages. Rasmus Rask and his successors seem to have been on the right track.

[58] The Eskimo version was accepted by a native from Greenland who visited Oslo.

REVIEWS

SELECTED WRITINGS OF EDWARD SAPIR IN LANGUAGE, CULTURE, AND PERSONALITY. Edited by David G. Mandelbaum. Berkeley and Los Angeles, University of California Press, 1949. 617 pp. $6.50.

The task of selecting a representative collection of Sapir's writings would tax the judgment of any editor. For in spite of Sapir's short life, his monographs, articles, and reviews flowed in a voluminous and steady stream over a productive period of nearly thirty-five years. His writings encompassed a wide range of topics in several distinct disciplines. And the quality of his writing was maintained at a level of originality and richness that was just as steady as its volume. Sapir did not seem to experience the ups and downs of inventiveness that normally plague a writer. Even in a brief review, where he would ostensibly be discussing a specific book, his fresh insights illuminated a circle of new problems with unsuspected significance.

In spite of the difficulties involved in choosing a representative group of Sapir's writings, David Mandelbaum has performed the task with admirable skill and sensitivity. Prefacing the volume is a brief introduction, presenting the salient facts of Sapir's life and the main characteristics of his personality.

The selections are grouped into three major parts: Language, Culture, and The Interplay of Culture and Personality. The first two parts are each subdivided into three topical sections. A short editor's preface, introducing each part or section, points out some of the themes and the significance of the constituent papers. In these prefaces and in the introduction Mandelbaum shows a keen understanding of the recurring motifs that were manifested in Sapir's thinking and wide-ranging curiosity. The book ends with a bibliography of Sapir's scientific papers and other prose writings, compiled by Leslie Spier, and a separate bibliography of Sapir's poems, prepared by his son, Philip.

Half of the book is given over to the part on Language, which comprises three sections: The Nature of Language, Studies of American Indian Languages, and Studies of Indo-European and Semitic Languages. The first section contains twelve papers which include: articles which were originally published in *Language* and might be classed as general linguistics; several papers stressing the psychological and cultural aspects of language, those which appeared in psychological journals, in the *American Anthropologist*, or in the *Encyclopaedia of the Social Sciences*; one of his articles, "The Concept of Phonetic Law as Tested in Primitive Languages by Leonard Bloomfield," dealing with comparative linguistic methods; one of his contributions to the problems of an international auxiliary language; and one of his semantic studies, the paper on "Grading."

In the second section are reprinted six of Sapir's papers in the field of American Indian languages. His descriptive studies are not represented here, for the book, after all, is primarily aimed at a non-linguistic audience. Even in this section the emphasis is peripheral to linguistics in its narrowest sense. Two of the papers, "Abnormal Types of Speech in Nootka" and "Male and Female Forms of Speech in Yana," deal with linguistic devices characterizing certain socially defined groups in these two cultures. The Nootka article takes up the problem of the historical development of these abnormal types of speech, which resemble speech defects but function as mocking forms or as styles of speech identifying certain folktale characters. The historical perspective is emphasized more thoroughly in "Internal Linguistic Evidence Suggestive of the Northern Origin of the Navaho," which illustrates how comparative linguistic

data can be utilized to reconstruct the history of group migrations. The possible similarities in the phonological development of glottalized continuants in several unrelated languages are examined in "Glottalized Continuants in Navaho, Nootka, and Kwakiutl (with a note on Indo-European)." The "note" of some half-dozen pages is a succinct presentation of Sapir's views on the Indo-European laryngeal hypothesis. The section also includes a study in comparative linguistics, "A Chinookan Phonetic Law," and the contribution to linguistic classification, "Central and North American Languages."

The third section, Studies of Indo-European and Semitic Languages, contains four papers and one review. Here Sapir's interests were principally in comparative and etymological problems.

The 13-page bibliography prepared by Spier, which contains some 300 entries, provides a clear story of the range of Sapir's publications and the shifts in his interests. The first ten years, from 1906 through 1915, were primarily devoted to descriptive studies in American Indian languages. During this time he published texts, vocabularies, descriptive sketches or fragments on Kwakiutl, Chinook, Yana, Wishram, Wasco, Takelma, Ute, Paiute, Nootka, Tutelo, Chasta Costa, Comox. Toward the end of this period another aspect of American Indian linguistics was brought into focus. Sapir's background of training in Semitic and in Indo-European comparative linguistics were now applied to American Indian languages. In 1913 he published the first of his papers on "Southern Paiute and Nahuatl, a Study in Uto-Aztekan," the other two in the series appearing in 1915. This substantial study of nearly a hundred pages represents, as far as I know, the first application to American Indian languages of the comparative method based upon the analysis of systematic phonetic correspondences and directed toward the reconstruction of the sound system in a parent language. During these years he also published some of his Algonkian studies as well as his paper on "The Na-dene Languages, a Preliminary Report." It is a revealing commentary on Sapir's character that when he wrote an article, nearly twenty years later, demonstrating the application of the comparative approach to American Indian languages he entitled it "The Concept of Phonetic Law as Tested in Primitive Languages by Leonard Bloomfield."

The period of 1916 through 1925, which covered the last ten years of his fifteen-year stay in Ottawa, brought significant new currents into the broadening stream of his interests. He continued, though less intensively, to publish descriptive studies in American Indian languages. The full-length grammar of Takelma appeared in this period, based upon data collected some ten years earlier. His detailed and meticulous description of Southern Paiute, not published until 1930, was completed in 1917. He also wrote descriptive articles on Nootka, Yana, Kutenai, Chimariko, Haida, Sarcee. Comparative linguistics drew more of his attention than it had previously, but his interest turned increasingly toward structural comparisons rather than phonological analyses. He kept on publishing comparative studies in Athabascan and Algonkian, and it was during these years that he wrote all of his articles on the Hokan problem and his one paper on Penutian.

Sapir's contributions to American Indian linguistics should correct the impression that he was a writer who produced only one book, *Language*, with the remainder of his work appearing in the form of brief articles. It is true that he had a special flair for condensing a problem or a point of view in the ten-to-twenty-page article which is the favored literary form of scholarly journals. But he did not by any means confine himself to this form. He also wrote many longer articles, and he produced about a dozen monograph-length or book-length grammars, text collections, and

comparative studies in American Indian languages.

But, in addition to his linguistic work in the American Indian field, Sapir's writings during this period reveal the new trend that was to become the absorbing interest of his life. He began to venture beyond the strict confines of linguistics and to seek new perspectives for the phenomena of language that would relate it to other forms of human behavior. About half of his monograph of 1916, *Time Perspective in Aboriginal American Culture: A Study in Method*, discusses the types of linguistic evidence which can be utilized for reconstructing culture history. His book *Language*, published in 1921, contains sections and chapters which show the same tendency to explore wider problems. But the book should be regarded as merely an evidence of his early attempts in this direction, for he later abandoned or completely restated many of the problems discussed in its pages, such as the relation between language and thought, or the characteristics of language as a form of art—an idea in which he was apparently stimulated at the time through his reading of Croce.

In 1925 he wrote his first article on an international auxiliary language. The same year saw the publication of "Sound Patterns in Language," the first article, I believe, in which he used the term "phoneme." To Sapir the phoneme concept was significant, not so much as a methodological tool for the linguist, but rather as a powerful and clear demonstration of the unconscious patterning of human behavior. Essentially, he attempted to show in this article that speech sounds cannot be fruitfully understood as a mere set of articulatory motor habits: two languages "may have identical sounds but utterly distinct phonetic patterns; or they may have mutually incompatible phonetic systems, from the articulatory and acoustic standpoint, but identical or similar patterns."

One can gain some notion of the new sources of stimulation and vitality that entered Sapir's work during the 1916–1925 period by examining his writings outside of linguistics. Ethnological papers continued to appear as before. But in 1917 he published reviews of Freud's *Delusion and Dream* and of Oskar Pfister's *The Psychoanalytic Method*. These were the first indications in his writings of an interest that was to continue throughout his life. Articles and reviews on music and literature also began to appear during these years. And in 1917 he began to publish poetry, whose volume and whose significance to his thinking should not be overlooked. He published one book of verse and over a hundred poems or groups of poems in many literary journals of Canada and the United States. These were no amateurish effusions which he tossed off now and then in his lighter moments. In fact, it might be said of Sapir that he could not approach any task in the true spirit of an amateur or a dilettante. He worked at poetry with the same unrelaxing energy and incisiveness of mind that characterized his efforts in linguistics or ethnology.

His experience with poetry had a distinctive influence upon his prose style. Sapir was always a competent writer of expository prose. Even his earliest papers show that he never lacked the ability to write the clear, precise, well-organized, though somewhat colorless prose characteristic of the better academic writings. But his prose from about 1920 began to take on new dimensions. One can notice a growth in the apparently effortless and graceful fluency of his expression. Certain verbal habits peculiar to poetry invaded his prose. Even passages pulled out of context from his later writings are eminently quotable, for he became skillful in the use of the packed phrase, the vibrant word, the familiar image reset in an unfamiliar context to evoke fresh and unsuspected implications of a theme.

His writing continued to be clear and

ordered in its conceptual exposition, but he emphasized more and more the control of evocative overtones in any topic he discussed. He set out to capture, not only the intellects of his readers, but their feelings and attitudes as well, and anyone who knew Sapir can have little doubt that he did this with utter frankness and a full consciousness of what he was doing. Instead of continuing to master the one style of conventional academic writing, he became adept at handling many styles. He preferred to play a variety of stylistic tunes in one and the same article, shifting imperceptibly from a sober argument, to an imaginative play with words and concepts, to an interlude of wit and humor—and Sapir became increasingly fond of indulging in passages of academic leg-pulling—back to the sober line of argument again. It is this breadth and variety in his control over language which gives his writing its color and refreshing vitality.

The implications of Sapir's holistic use of language—his attempt to write for the reader as a person rather than as a disembodied intellect—were realized more fully in his publications after he returned to the United States in 1925. He practically stopped writing descriptive and comparative studies in American Indian languages. Most of the few American Indian papers which appeared were apparently based upon previously collected materials and merely edited for publication during this period. He became more interested in utilizing this data to illustrate socially and psychologically significant modes of behavior in language. Several entire articles were written in this vein, such as "Nootka Baby Words" (1929), "Male and Female Forms of Speech in Yana" (1929), "Two Navaho Puns" (1932), his earlier papers dealing with the kinship systems of several American Indian languages, and his "Abnormal Types of Speech in Nootka" (1915). Throughout many articles he drew upon his American Indian linguistic data for examples to pinpoint a broader theme. This technique—the presentation of concrete examples, followed by an explanation of their meaning and significance in a more inclusive frame of reference—became a favorite mode of exposition with Sapir.

This period saw a revival of his earlier interest in historical and comparative studies of the Indo-European and Semitic languages. The Hittite problem stimulated him to examine Hittite-Indo-European relationships and to publish several papers on his results. In one article he traced certain influences of Tibetan on Tocharian, which he believed to be a "Tibetanized Indo-European idiom." He had additional data on the Tocharian-Tibetan problem, and early in his career he had collected Sinitic materials in exploring Sinitic-Nadene relationships. But this article, which appeared in 1936, three years before his death, is the only published account of his Sinitic studies, most of which still remain in his unpublished files.

He also continued publishing articles on the problems of an international constructed language. And it was during this period that he wrote his three papers in the field of semantics—*Totality*, *The Expression of the Ending-Point Relation in English, French, and German*, and "Grading, A Study in Semantics."

The bulk of his articles after 1925, however, reflected his primary interest in pushing language study beyond the conventional boundaries of linguistics. Some of his general articles during these years—"Philology" (1926), "Communication," (1931), "Dialect" (1931), "Language" (1933), "Symbolism" (1934)—outlined the multiple facets of linguistic phenomena as they impinge on problems of individual and group behavior. This point of view was presented in a programmatic manner in "The Status of Linguistics as a Science" (1929), whose purpose, in spite of its title, was "not to insist on what linguistics has already accomplished, but rather to point out some of the connections between linguistics and

other scientific disciplines." In this paper he stressed the strategic importance of linguistics for the methodology of social science. In the concluding sentences of this article he wrote:

> Better than any other social science, linguistics shows by its data and methods, necessarily more easily defined than the data and methods of any other type of discipline dealing with socialized behavior, the possibility of a truly scientific study of society which does not ape the methods nor attempt to adopt unrevised the concepts of the natural sciences. It is peculiarly important that linguists, who are often accused, and accused justly, of failure to look beyond the pretty patterns of their subject matter, should become aware of what their science may mean for the interpretation of human conduct in general. Whether they like it or not, they must become increasingly concerned with the many anthropological, sociological, and psychological problems which invade the field of language.

The content of language was, to Sapir, significant as "a symbolic guide to culture." "We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation." The individual's behavior in language was also important as symptomatic of his personality, and this theme he discussed in detail in "Speech as a Personality Trait" (1926). But it was the evidence of form in language which impressed Sapir as having the deepest implications for an understanding of human behavior. Linguistic form was a patterned phenomenon; in the individual or the group these formal configurations were adhered to or recreated unconsciously and intuitively. Sapir unceasingly hammered at this theme in his articles, whether written for linguists, psychologists, or social scientists. In "The Unconscious Patterning of Behavior in Society" (1927), a paper which appeared in a symposium addressed primarily to psychologists, Sapir used linguistic data as his prize exhibit, but he also attempted to show that unconscious patterning was characteristic of non-linguistic forms of behavior as well. He translated this concept into psychoanalytic terms, though perhaps with his tongue in his cheek, when he wrote in an earlier book review of the need for discovering a social psychology of "form-libido." In short, language provided the clearest and most easily described evidence of the fundamental human tendency to mold behavior into unconscious patterns of form.

The reader who is aware of this guiding theme in Sapir's thinking will also be aware that it is somewhat arbitrary to divide Sapir's writings into the categories of 1) Language, 2) Culture, and 3) The Interplay of Culture and Personality. In editing the volume of selected writings, Mandelbaum set up these three categories as a necessary convenience, serving to organize the material into conventionally recognized fields and to highlight the diversity of Sapir's contributions. But to Sapir these were not separate fields, and his writings, particularly during the last 15 or 20 years of his life, explain and reiterate his reasons for considering them as an indissolubly fused whole. The danger of this division is that the unwary linguist may, in the first place, read the papers in Part One headed "Language" and find a good deal that seems to be peripheral to his discipline. As a matter of fact, about half of these papers were originally published outside of linguistic journals or sources. In the second place, the too-busy linguist may fail to read the other parts of the volume and thus miss a number of papers that are just as relevant to linguistics. Part Two, "Culture," contains the *Time Perspective* paper, the last half of which—some forty pages—gives a concentrated presentation of the methods for using linguistic evidence to work out time perspectives. This paper should be required reading for students in linguistics, as it is for most students of ethnology. Similarly, in Part Three such papers as "Speech as a Personality Trait," "Symbolism," and "The Unconscious Patterning of Behavior in

Society" should not be by-passed by the linguist.

At the time that Sapir was seeking to expand the horizons of language study beyond the linguist's traditional universe of discourse, history played a cruel trick on him by directing linguistics into contrary channels. Under the influence of Bloomfield, American linguists in the 1930s turned to an intensive cultivation of their own field, sharpening their methodological tools and rigorously defining the proper limits of their science in terms of what Trager has identified as "microlinguistics." They became increasingly efficient microlinguists. Certainly no one can deny that this involutionary trend has given linguistics a disciplined clarity and power of analysis that it never had before. But it is equally true that this trend carries with it the seeds of an ever-narrowing parochialism. And it was Sapir's main purpose to make linguistics a more cosmopolitan member of the community of sciences.

The recent arguments over "mentalism" may have obscured Sapir's position on the relation of linguistics to the other sciences of human behavior. He was as thoroughly committed as Bloomfield to the view that a valid linguistic science must be a coherent and self-consistent body of concepts. It must not look for extra-linguistic formulations to support or, still worse, to validate its findings. Modern linguists are and should be particularly sensitive to the fallacies of trying to find an external deus ex machina to explain the phenomena of their science, for Nineteenth Century linguistics was heavily overburdened with vain speculations, often indulged in by otherwise sound linguists, who philosophized and psychologized about evolution, race, climate, national character, and whatnot as determinants of linguistic facts.

Sapir's policy in seeking interdisciplinary linkages between linguistics and psychology was simply to present linguistic formulations and to allow psychologists, of whatever brand, to make their own reinterpretations. Many of his articles were addressed to psychoanalysts and psychiatrists, for he saw that the operations of the unconscious as manifested in language could provide data of particular interest to these specialties. In "The Status of Linguistics as a Science" he pointed out that the configurated character of language, which "develops its fundamental patterns with relatively the most complete detachment from other types of cultural patterning," should have a special value for Gestalt psychologists. He spoke to experimental psychologists in their own lingo in "A Study in Phonetic Symbolism," where he reported the results of his use of experimental techniques in studies of sound symbolisms.

In making this manifold approach to psychologists Sapir realized that, if linguistics is the body of formulations made by professional linguists, then psychology is the body of formulations made by psychologists. He did not try to select or construct a linguist's psychology, which, like a psychologist's version of linguistics, would be neither fish nor fowl, but a spurious body of doctrine irrelevant to both disciplines. This is not merely a matter of good manners, of the linguist's being gentleman enough not to muscle in on the psychologist's territory. It is the much more serious matter of recognizing that the consistency and integrity of any science must be maintained by the trained workers in that field, not by outsiders who may sometimes feel they can view the field with godlike omniscience. The failure to recognize this has frequently put a stop to fruitful communication between disciplines.

Sapir's approach to this delicate interdisciplinary problem is especially important at this time, because there are signs that a renewed effort in this direction is now being made. Fruitful results can be achieved if interested linguists and specialists in the other sciences of human behavior are willing to respect and to try to understand

one another. This type of endeavor is, of course, fraught with misunderstandings and disillusionments. But it is the only way in which linguists and other specialists can cooperate to find concrete problems in which both can contribute and to formulate concepts relevant to both fields. Because Sapir understood the necessity of this approach, his linguistic writings are particularly meaningful to non-linguists. Papers of this type are predominant in Mandelbaum's selection, and it may turn out that Sapir's major contribution in the long run will be as the linguists' spokesman to psychologists and social scientists. Although Sapir used linguistic methods and procedures with consummate skill, he was an artist rather than a scientist in this regard. It was Bloomfield who formulated the methods of linguistic science into a clearly defined and tightly coherent body of doctrine.

Linguistics has been fortunate indeed in claiming two men of this stature of genius, who could provide such utterly different and complementary impulses to their field. The one might be considered the centripetal force in linguistics; the other's impulse was decidedly centrifugal. One pointed the way to a more intensive and logical analysis of linguistic phenomena; the other indicated the broader perspectives within which linguistic science could contribute to a richer understanding of human behavior.

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STANDARD DICTIONARY OF FOLKLORE MYTHOLOGY AND LEGEND. Edited by Maria Leach. Funk and Wagnalls Company, New York, 1949–1950. 2 vols.

The choice of an ethnologist to review a folklore dictionary for a linguistic journal seems scarcely more eclectic than the basis of selection used for the materials included in the dictionary. The Editor points out that the dictionary is "an experiment: an attempt to cut a cross section into the spiritual content of the world . . ." "Here are . . . gathered together a representative sampling of the gods of the world, the folk heroes, culture heroes, tricksters, and numskulls . . . of the folklore of animals, birds . . ." and a long catalog more. Further: "Many things are included because of their great diffusion, known importance, or fame, others for their uniqueness or obscurity . . . The book belongs to no 'school' of folklore . . . Each contributor has been free to hold to his own convictions, enthusiasms, and skepticisms."

It is clear, then, that it has been the contributors in some sense who have determined the content of the book. The major survey articles, we must surmise, have been selected by the editor, and these, dealing either with national or regional folklore or special broad topics (e.g., the ballad) are on the whole excellent encyclopedic summaries. It is true that despite the large amount of materials included in the dictionary from American Indian folklore, the article on American Folklore makes no mention of the American Indian although such an anthropological concept as "acculturation" does creep into the text. There are also some overstatements such as the "well-known anthropological fact that all over the world" black magic can be worked with the hair of the victim, a point that may startle some Americanists. In one case, the article on the Dance, Gertrude Kurath has attempted to compress her very vast knowledge into some twenty pages, with the result that her intention is not always clear. (As a minor point, she seems to have confused the *occasions* for dance performances with *purpose*.) Criticisms of this sort could be multiplied but they are essentially niggling over points too minor to detract seriously from the articles.

The selection of shorter contributions is a little harder to understand. A biography of Ales Hrdlicka, for example, is included, although so far as I know (and the biography does not contradict) he never made any contribution to folklore. Boas is included,

which is proper. On the other hand there is no biography of Ruth Benedict, who edited the Journal of American Folklore for some years and published folklore collections, of Elsie Clews Parsons who not only published a wide variety of folklore materials of her own collection, but subsidized field work by many others and kept the American Folklore Society alive at precarious times by her financial contributions, nor of a famous linguist-folklore collector, Edward Sapir.

On the whole, the selection clearly is in accord with the editor's statement and depends very much on the interests, energy, and enthusiasm of the individual contributor. Thus the indefatigable Gertrude Kurath has worked a far wider collection of materials about the dance into the dictionary than can be found for perhaps any other category included. In other cases, evidently a contributor has dealt with a problem for one continent and ignored all the others, or has dealt with only a limited phase of the subject. Thus under the heading of "common-law" one could reach the conclusion that commonlaw type marriages are confined to Negroes in the New World. Corn or maize is "a pre-Columbian cultivated plant of the American Indians of the Southwest, Southeast, and Eastern Woodlands, and of the village tribes of the Plains . . ." which leaves one wondering about the cultivated plants south of the Rio Grande. The entry on "fingers" gives examples from Europe, Africa, Asia and Oceania but refers neither to the sign of the cross nor to finger sacrifice among American Indians. As a further indication of the range and randomness of selection the following list of entries from page 840 is offered: Pa'am Akhat, Paccari tambo, Pa Cha, Pachacamac, Pachamama, pachecos, pada, Padmapani, Paguk, Pa Hsien, pairikas, paixtle dance.

These entries I think clearly indicate that while the reviewer's comments indulge his own personal interests, he merely follows the contributors. Nevertheless, such comments have a point for they indicate both the richness of the material offered as well as something of the character of the lacunae one may find.

The Editor (and one should add, the advertising) of the Dictionary have made it abundantly clear that the Dictionary is a cross-section and a sample. In her introduction the Editor has further pointed out the impossibility of a complete dictionary ("just the superstitions of Germany fill ten volumes"). Moreover, the field of folklore is still sufficiently diverse and ill-defined that a dictionary must clearly serve extremely varied interests and wholly satisfy nobody. The evidence for this is to be found in the twenty-odd definitions of folklore presented by the contributors, definitions which the Editor has quite wisely not attempted to synthesize. While undoubtedly expressing an anthropological bias, I was impressed nevertheless by George Foster's cautious suggestion (which he does not enlarge) that perhaps the best way of defining folklore would be in terms of "treatment" (for which I would read "method") rather than as a body of materials. Possibly agreement on method might be as difficult to achieve as is agreement on materials, but at least it would be a different approach to the problem.

The value of the Dictionary as a reference work should be considerably enhanced by the index volume which is still to be published. Even without it, linguists, especially those working with exotic languages and who collect texts in the course of their work, may find the dictionary a useful starting point if they wish to do folkloric analysis of their materials. It is quite possible such a linguist will find nothing on the subject of his interest, but he must indeed be a single-minded scholar if he gets away from the Dictionary without having spent an hour or so browsing through it. Despite the random caveats made in this review—after all the traditional function of the reviewer—the dictionary contains a great

mass of most entertaining reading. If it happens to contain as well the particular subject of interest, individual researchers will assuredly find it valuable as well.

A few further comments seem necessary. The devotion and hard work of the editor, associate editor, consultants, and contributors clearly has been enormous and everyone who has anything to do with folklore, layman or specialist, must be under deep obligation to them. Moreover, it must be pointed out that this undertaking was initiated and financed as a commercial venture by a commercial publisher. Especially considering the present day difficulties of the publishing business, this was a fine and courageous effort. I, for one, hope the publisher makes money out of it, so much money that at intervals we may have revised and expanded editions.

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LEARNING A FOREIGN LANGUAGE. A HANDBOOK FOR MISSIONARIES. By Eugene A. Nida. Committee on Missionary Personnel of the Foreign Missions Conference of North America: New York, 1950. Pp. ix + 237.

The expressed primary purpose of Nida's book, as its subtitle indicates, is to help the missionary learn a foreign language. Designed as a guide for individual language study, this seven chapter book is divided into two parts: the first three chapters, which occupy roughly one third of the volume, deal with "principles and procedures in language study" and the remaining four chapters with "some of the fundamental features of languages."

Chapter One, entitled Languages Can and Must Be Learned, begins with an anecdote to illustrate to the missionary the probable unhappy consequences of failing to learn "to understand and speak the native [i.e., foreign] language effectively" (1). Such failures, Nida suggests, occur all too frequently and the reasons most commonly offered to explain the failures, such as being too old to learn, or being tone deaf, or being without previous experience in foreign language learning, he feels are poor rationalizations. Later in the chapter, however, Nida indicates what he does consider to be valid reasons for language learning difficulty: not taking sufficient time to learn; using a "wrong approach"; having an inept tutor; learning to read before learning to speak, instead of the reverse, which Nida considers to be preferable; lacking sufficient opportunities for practice; being satisfied with mediocre and poor performance; and overestimating the quality of performance.

The reader emerges from the first chapter with the view that, on the one hand, foreign language learning is a hazardous occupation with many tempting roads to failure, but, on the other hand, if the proper precautions are taken, success in learning will follow. Throughout the book the warning is repeatedly given that this success will be earned only after the student has passed through all of five progressive stages or degrees of language learning (which are described on pp. 10–11).

Chapter Two is entitled Principles of Language Learning, and Chapter Three Ways of Learning a Foreign Language. With the warnings and admonitions of Chapter One fresh in mind, one might expect to find in these two chapters some principles or rules to be used as a guide on the perilous journey—the learning of a second language. Nida does not disappoint—the rules are there to be discovered, along with many interesting and relevant anecdotes. The unsophisticated reader, to whom the book is primarily addressed, will probably be quite satisfied with what he finds. In Chapter Two, for example, he is advised: (1) to drop all preconceptions about languages before beginning to study a new one, since failure to do so might hamper the new learning (13); (2) to mimic the speech of a native early and often in the course of

the language learning, since this will speed it up (23–4); (3) to over-learn the language in order to make speaking so automatic that "thinking in the language" becomes possible (24-6); etc. And in Chapter Three, Nida suggests to the student who finds himself in the position of learning a non-aboriginal language with the aid of a private tutor: (1) read aloud and listen to reading (40); (2) associate with native speakers (43); (3) listen to the radio (45); etc.

Indeed, the naive student, eager for assistance, will be pleased with what he finds in these chapters. He is provided with "do's and don'ts" of efficient language learning. Unaware of the scant state of research in the area of language learning,[1] he may accept Nida's suggestions uncritically and begin his learning of a second language with feelings of confidence.

But the more sophisticated reader probably will not be so pleased with what he finds. A psychologist, who is aware that very little has been done experimentally with problems of language learning, may be surprised at the great number of dogmatic "rules" and "statements of fact" that Nida undertakes to provide. He will, of course, be more cautious in accepting Nida's pronouncements of the valid ways to proceed.

If we keep the purpose of this book in mind, we may, perhaps, be able to sympathize greatly with what Nida has done. Many individuals, particularly missionaries, with whom Nida is especially concerned, often find themselves in a situation where it is desirable, if not essential, for them to learn to speak and understand a new language as rapidly as possible. And it is likely that a large proportion of these individuals are at a complete loss as to where to begin and how to proceed with the task. Nida, recognizing the need for a "guide to individual language study," has attempted to satisfy that need with his book. That a book with such a purpose cannot be written adequately at the present time, considering the scarcity of relevant experimental data, obviously did not deter Nida from his task. And the helpless student, perhaps, should be grateful to Nida for whatever aid his book may provide. It is conceivable that many inexperienced language students will profit from the numerous practical hints and suggestions contained in the book. Some of Nida's opinions may eventually be found to be sound, and so to operate on that basis may be very rewarding, even if they are unsupported by experimental evidence at the present time. With his extensive background and vast experience in matters of language and language learning, Nida may be excused for expressing his notions with regard to efficient techniques for language learning, as many distinguished linguists before him have done (e.g., Jespersen and Bloomfield). However, it is important that most of Nida's statements, as those of his predecessors, be recognized for what they are: asserted pedagogical principles of alleged generality that have never been properly verified by scientific study.

If we were to analyze these opinions, we might find it convenient to classify them in the following manner:

I. Statements which have been tested experimentally, either directly or indirectly.

A. Statements which are, or appear to be, supported by available experimental data.

B. Statements which are, or appear to be, refuted by available experimental data.

II. Statements which never have been tested experimentally.

A. Statements which should be tested experimentally.

[1] Cf. Harold B. Dunkel, Second - Language Learning; and Frederick B. Agard and Harold B. Dunkel, An Investigation of Second-Language Teaching (Boston, 1948). Dunkel's principal gloomy conclusion seems to be: "In view of [this] survey, the judgment that we need to know a great deal more about many important aspects of language learning seems justifiable" (164).

B. Statements which cannot be tested experimentally.

C. Statements which are not worth testing experimentally.

Most of the statements in Nida's book clearly fall into category II A—statements which never have been but should be tested experimentally. Nida makes these statements, however, as if they belonged in I A. For example, he says: "People who mimic easily have a great advantage in learning a foreign language, providing, of course, they will mimic native speakers" (23). This is a II A statement—it should be tested experimentally. This could be done by first selecting several individuals who are judged objectively to be "good mimics" and several otherwise equated individuals judged similarly to be "poor mimics." Both the "good mimics" and the "poor mimics" could then be given the same training in the learning of a foreign language. The learning rates and the final levels of facility reached after the training period is completed could then be measured for both the good and the poor mimics and a comparison of these scores (average values) could provide a first tentative evaluation of the validity of the original statement (hypothesis). In any such experiment, of course, there would be many parameters to work out before a final evaluation could be made—e.g., different training techniques would have to be investigated, since an advantage for the "good mimic" might appear under one method and not under another; or the advantage for the "good mimic" might be present with one language, and not with another, so that different languages would have to be studied; or the age of the learners might be an important variable; and so forth. We can agree, however, that the statement is one which seems to be worth testing experimentally. If a decided advantage in language learning were to be found for the "good mimic" under most of the conditions investigated, it might then prove to be advisable and economical of time and energy, in the long run, to teach people to mimic before beginning the usual teaching of a foreign language. Or language aptitude tests might be improved by the inclusion of a section on "mimicry."

Many other statements capable and worthy of experimental study are found in the first three chapters of Nida's book. To list them here seems hardly necessary. That the majority of the statements in the book do fall in this category, however, is worth emphasizing.

The few statements which might reasonably be assigned to category I A, we find presented by Nida with no more emphasis than his many other unsupported statements: "... it will be amazing how much can be assimilated from practical situations in which one is forced to try to speak and explain ..." (58); "Making a trip alone where one must obtain food and lodging is a marvelous way to acquire vocabulary. It is amazing how words learned under such circumstances stick with one" (28–9). To one who is familiar with the research of Hull and other reinforcement theorists,[2] these "facts" are not so "amazing" but, perhaps, expected.

Examples of II B and II C statements are numerous: "Nothing is more rewarding than living with a native family if one really wants to learn to speak a language" (78-9); "Some people are emotionally and psychologically incapable of not learning a language" (28); "Thinking in a foreign language is absolutely essential" (26); "Every time an English word or phrase pops into one's mind, it should be tossed out, and thinking should progress only as foreign words and phrases come to mind"

[2] For example, see Clark L. Hull, Principles of Behavior (New York, 1943); Neal E. Miller and John Dollard, Social Learning and Imitation (New Haven, 1941); Burrhus F. Skinner, The Behavior of Organisms (New York, 1938); Fred S. Keller and William N. Schoenfeld, Principles of Psychology (New York, 1950).

(26).[3] "A week's living in a home is worth a month's reading about the life of a people" (43).

It is doubtful whether one could be fully justified in placing any of Nida's statements in category I B—statements which appear to be refuted by available experimental data. So few experiments have been performed which bear directly on the problem of language learning that it is almost impossible to state categorically that any statement is refuted by the existing experimental data. Several doubtful statements, then, which we might be tempted to put in the "refuted" class, we must place in category II B to be tested. Statements such as the following are cases in point: (1) It is essential "to drop all preconceptions about languages before beginning the study of a new one" (13). Even if it were possible to accomplish such a feat, which is doubtful, it is probable, from what is known from studies of "transfer of training",[4] that the result of such an effort would not be profitable for the language learner. Or, stated positively, he is more apt to benefit than suffer from his previous experiences with languages (and his "preconceptions"). (2) "... to spend five seconds on ten successive days has much more value in training one's recall ability than to spend fifty seconds on just one day" (57). A statement such as this one may be found to be true under certain specific conditions of learning. As a general statement it is untenable. Factors such as the kind of learning method employed, the amount of previous learning, the kind of response being learned, the method of measuring recall, the length of the material involved, and the learner himself are all variables important in determining the advantage of "spaced practice trials" over "massed practice trials."[5]

Nida as a linguist is well known to us, as is the pragmatic point of view of the Summer Institute of Linguistics, hence extensive remarks here upon the linguistic portion of this work appear superfluous. The chapter on Mastering the Sounds reflects notions known to all who are familiar with the writings of Pike on phonetics, tone, intonation; the latter's book on phonemics is here referred to as "the most satisfactory text on this subject" (139). For other miscellaneous comments on Pike's contributions, see the observations of Echols (JEGP 48.377–9 [1949]), Fischer-Jørgensen (Acta Linguistica 5.42–8, 104–9 [1945–9]; ibid. 6.54–6 [1950]), Herzog (IJAL 15.236–44 [1949]), Hockett (SIL 7.29–51 [1949]), Li (Lg. 26.401–3 [1950]), Martinet (Word 5.282–6 [1949]), Trager (Lg. 26.152–8 [1950]) Voegelin (IJAL 15.75–85 [1949]), and Wells (Lg. 23.255–73 [1947]), among others.

The chapter on Figuring Out the Forms is a considerably simplified account of the bulk of Nida's book on morphology which, again, has been widely commented upon as to both of the versions in which it was published; cf., e. g., the reviews of Hockett (Lg. 23.273–85 [1947]), Martinet (Word 6.84–7 [1950]), Preston (IJAL 14.56–7 [1948]), and Trager (ibid. 17.126–31 [1951]). Chapter Six of Nida's Morphology appears here in a less detailed, more popular exposition in the last chapter, on Discovering the Meanings. The pedagogic device of actual-language problems (or hypothetical ones, as in the earlier edition of Morphology) is not used in the present book; this is one sense in which it is a compressed version.

As to Nida's views on syntax, these were more fully embodied in a mimeographed work distributed in 1946; there, as here (204–7) in the chapter on Putting Words Together, he stresses the notion of immediate constituents; for a more rigorous presentation, see also his article in Lg. 24.168–77 (1948).

[3] For a sound treatment of "thinking in a foreign language" see Keller and Schoenfeld, op. cit., Ch. 11.

[4] Dunkel, op. cit., Ch. 7.

[5] Numerous experiments bearing on this problem are brought together in John A. McGeoch, The Psychology of Human Learning, Ch. 4 (New York, 1942).

It is clear that several fields must cooperate to produce a workable theory of language learning. Such a theory, for one thing, must be experimentally verifiable within the larger framework of learning-theory in general. In this cooperative venture, the linguist's basic contribution is the structural analysis of two languages: the one to be studied; and the one native to the student. Upon these descriptions, in turn, the teaching materials must rest. The structural analyses are not equivalent to, but precede "and furnish the groundwork for the building of the materials to be mastered and the ordering of them in a proper sequence," as Charles C. Fries has pointed out.[6] How then are these materials fitted into a live situation of teaching and learning—this is a question which we can answer at present in terms of several traditions and varied individual experiences, but not as yet scientifically. The criteria (experimental data) for evaluating the validity of most of such pedagogical statements as Nida's are not available at the present time. The great possibility for misdirection in books such as his calls for a seriously needed extensive experimental attack on many of the hitherto neglected problems of language learning. Not only would such a program of research have limitless practical value, but it would also serve to speed the development of a rigorous language learning theory.

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DICIONÁRIO DAS TRIBOS E LÍNGUAS INDÍGENAS DA AMÉRICA MERIDIONAL. By R. F. Mansur Guérios. Museu Paranaense, Publicações avulsas, N.º 6. Tômo I, A, pp. 1–63; Tômo II, B–Cax, pp. 65–141. Curitiba, 1948 and 1949.

The appearance of the first two volumes of Mansur Guérios' Dictionary among the reference works on aboriginal South America will certainly be welcome to every Americanist. Deliberately limited in scope, it is a list of tribes and languages which furnishes for the most part only the basic information concerning location, linguistic affiliation, main reference(s), and variant spellings and synonymy; such conciseness may well be to its advantage beside so comprehensive a work as the Handbook of South American Indians.

The main principles of the arrangement of the entries in the Dictionary are as follows: *tribe* (*sub-tribe*) is used to designate any aggregate of people with common ties irrespective of their number, mode of living, social structure, etc.; variant spellings of the entry word (brought into conformity—wherever possible—with the Portuguese spelling) are given in parentheses; two or more distinct tribes with identical names are listed under one entry word and indicated by consecutive numbers; if the tribal name corresponds with that of the language, only the family affiliation is given; two or more varying locations listed for a tribe imply its emigration, wide distribution, or nomadism; pertinent ethnographic or linguistic information is frequently included in the form of a citation with the name of the authority in parentheses (but only infrequently with the reference to the publication); etymology of the entry word is added in so far as it is known or has been suggested; synonyms and cross references conclude the entry; tribes or languages—whose extinction has been well attested—are designated by an asterisk prefixed to the entry word.

The last volume will contain bibliography as well as addenda and corrigenda.

To illustrate what has been said above, there follows a reproduction of a typical entry of Guérios' Dictionary:

AMAÛACA ou AMAÛCA (Amahuaka, Amahuka, Amahuacá) — Tr. da fam. ling. pano, parcialmente no Perú, região do Ucaiale, na Bolívia e no Brasil: rio Juruá; rio Jordão, afl. do Tarauacá; Purús superior (V. den Steinen, Ehrenreich, K.-

[6] Language Learning 2.92 (1949).

Grünberg, Rivet, Loukotka, Rondon, Baldus). — "Nas fontes do Juruá, Embirá e Purús, e no curso superior dos afls. pela dir. do Ucaiale e Urubamba, desde Tamaya ao norte até Sepahua ao sul" (Jijón y Caamaño, III). — Estão divididos em dois grupos — um entre o Curumaá e o Purús, outro sôbre o Amoacá. (R. Garcia). — Etim.: Pano — "rio (huacá) das cobaias (ama)." — Sin.: Impetineri ("Apud" Loukotka).

The lack of cross references for some of the variant spellings of entry words may occasionally result in difficulty for the consultant.

An examination of the Dictionary yields evidence of Guérios' thoroughness and good critical sense. One hopes that the publication may be completed as quickly as circumstances permit.[1]

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LES LANGUES DE LA FAMILLE TUPI-GUARANI by Čestmir Loukotka (Universidade de São Paulo Faculdade de Filosofia, Ciências e Letras Boletim CIV Etnografia e Lingua Tupi-Guarani No. 16 São Paulo, Brazil, 1950)

This 42 page paper proposes a new classification of the languages of the Tupi-Guarani family in Brazil and elsewhere. The classification is based on Loukotka's own comparative studies and the languages are classed according to hypothetical migrations of the Tupi-Guarani speakers.

In his opening words the author speaks of the geographical extension of the Tupi-Guarani linguistic family.

He traces roughly the general direction of the former migrations of the Tupi-Guarani speaking peoples and dates them as to pre-colombian and historical.

The present-day geographical extension of the Tupi-Guarani languages is considerable indeed. Loukotka assumes that the center of dispersion of these Tupi-Guarani speaking peoples was between Paraguay and the Parana rivers or else between the Juruena and Arinos rivers. He further believes there were a number of migrations from the dispersion center. He lists each migration along with a group of languages which are assumed to have diverged from an earlier Tupi-Guarani language spoken by the migrators. He lists 11 languages and 11 groups of closely related languages resultant therefrom:

(1) The migration toward the east; Kamayurá, Auetö.

(2) The first migration toward the south; Guarani, Kainguá, Chiripá, Apapokúva, Mbühá.

(3) The Guaranised tribes of the basin of Paraguay; Guayakí, Aré, Notobotocudo.

(4) The second migration toward the south; Tupi, Canoeiros, Tenetehara, Guajá, Manajé, Manaxo, Turiwára, Urubú, Mirañо, Pakajá, Jakundá, Anambá, Asuriní, Tapiraunha, Naimiguara, Parakanã, Purukarod, Takunhapé, Takumandíkai.

(5) The historic migration toward the north; Tapirapé, Ampaneá, Oyampi, Tamakom, Kusari, Paikipiranga, Kalayua, Emerillon, Calipurn.

(6) The historic migration in the basin of the Amazon toward the west; Yurimagua, Omagua, Yeté, Kokama, Kokamilla, Xibitaona, Pariana.

(7) The supposed relationship of the Miránha and the Záparo with the Tupi-Guarani.

(8) The migration toward the north; Arawine, Apiaka, Tapanhuna, Timaóna, Raipé-Chihi, Makirí, Pariuaia, Bocas Pretas, Kayabí, Cabahyba, Parintintin, Kawahíb, Tupi do Machado, Pauaté, Paranawát, Mialat, Takuatepe, Tukumãfed, Ipoteuate, Jabotiféd.

(9) The migration toward the west; Chiriguáno, Guaráyu, Pauserna.

(10) The Guaranised tribes of Gran Chaco and of Bolivia; Tapieté, Chané, Siriono.

(11) The so-called "impure" tribes; Yu-

[1] In a private communication Guérios has informed me that publication has been temporarily halted for lack of funds.

runa, Chipaya, Arupai, Munduruku, Kuruaya, Manitsaua, Maué, Arapiyú, Itogapúk, Ramarama, Urumi, Kepkeriwát, Sanamaĩkã, Kabixiana.

After the name of each language Loukotka has a short paragraph telling whether it is extinct and giving its geographical location. He also tells us what bibliographical materials treat of the language and makes a short historical and ethnographical statement about the tribes where his information permits. At the end of the article there is a bibliography containing 172 items on all the languages of the Tupi-Guarani family except Tupi and Guarani. For these languages he refers the reader to Ayrosa's bibliography (no. 4 of the same collection). He does, however, add a few works on Tupi and Guarani that were omitted by Ayrosa.

It is interesting to note that Loukotka lists 34 Tupi-Guarani tribes on his map of Brazil.[1] In the work under consideration he classifies 87 languages of which many more than 34 are of Brazil.

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